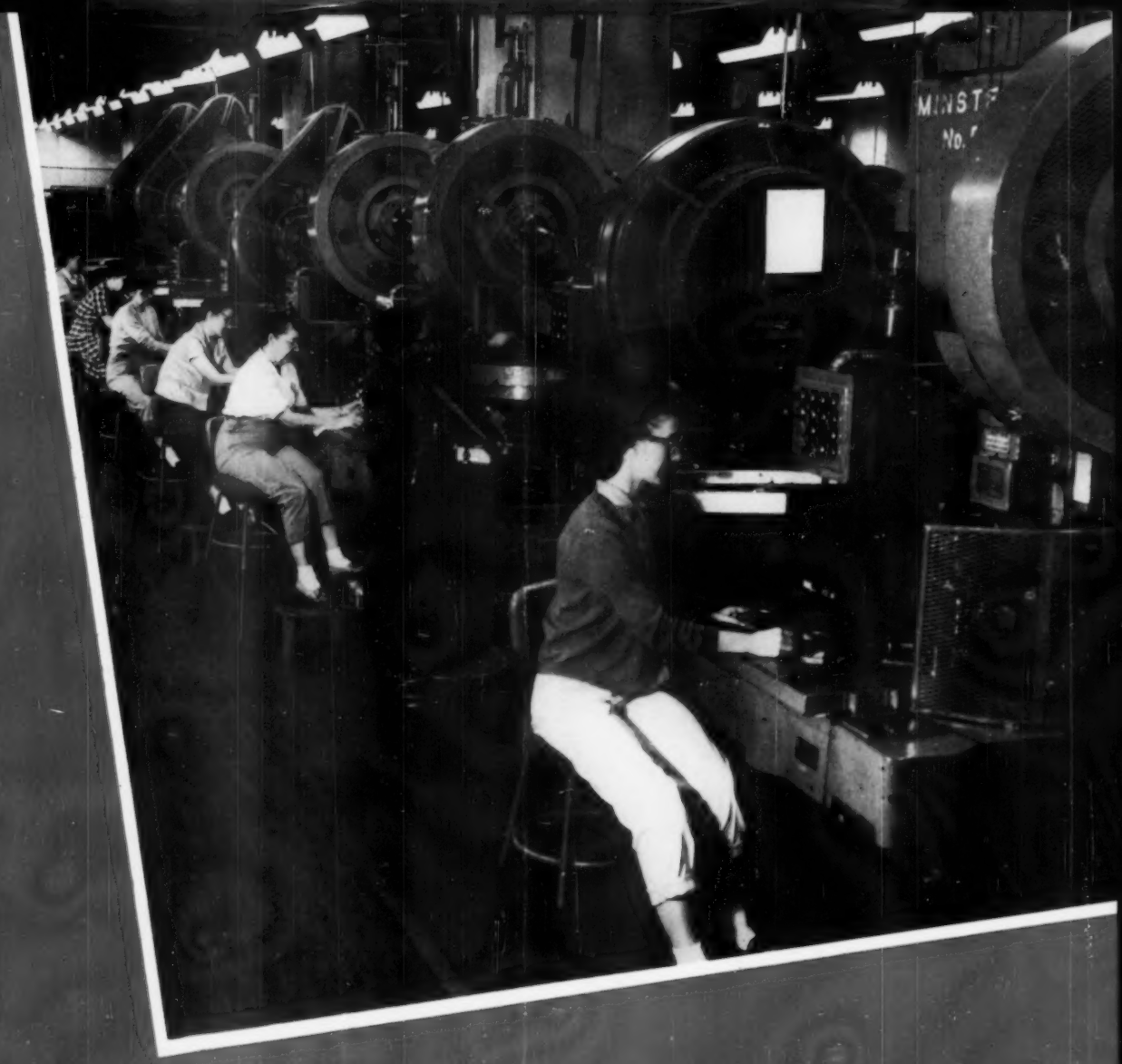

Safety Maintenance

EST. 1901 • AMERICA'S PIONEER MAGAZINE IN ITS FIELD • NOVEMBER, 1958 • 50¢
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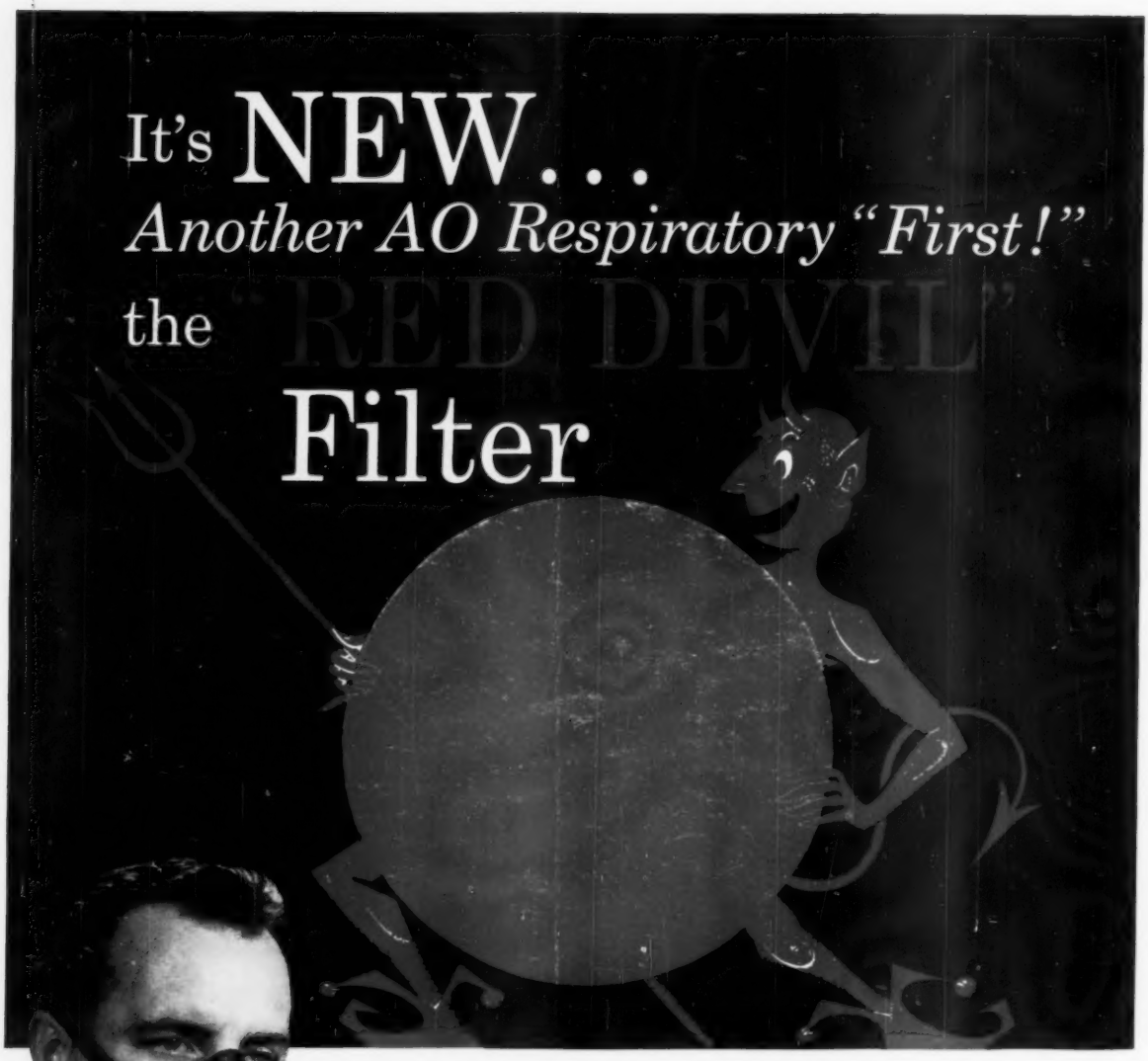

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Quick Facts

- Fibrous filter. Interlocked microfine synthetic fibers on which ultrafine asbestos fibers are dispersed.
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- Concentration gradient of ultrafine asbestos fibers insure higher filtering efficiency, lower breathing resistance and longer service life.
- All fibers bonded together by special fusion process.
- Precision AO built-in red prefilter for positive identification and thermally bonded to main filter for extra long service life.
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SAFETY PRODUCTS DIVISION

Always insist on AO Trademarked Safety Products.

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BULLETINS & CATALOGS

As a convenience to executives, these new publications of manufacturers are offered by the Reader Service Department of SAFETY MAINTENANCE. To obtain copies write in the key numbers on the free-postage card below.

MISCELLANEOUS

Safety Clamp for Linemen 265

Meyer Machine, Inc. Brochure introduces a new safety clamp for linemen. Unit can withstand loads up to 2,100 lbs. Complete assembly includes the safety clamp, cable latch, bolt snap, belt, cable, brackets and clamps.

Fire Control Equipment 266

The Swartwout Co. Folder describes new fire vents which open automatically when fire or an explosion strikes to eject smoke, heat, and explosive forces through the roof instead of throughout a building. Limits damage area and permits emergency equipment access to source of fire or explosion. These relief units are necessary where possibilities of fire exist, especially in large, single story buildings.

Safe Practices for Welding Operations 267

Linde Co., Div. of Union Carbide Corp. Book offers a complete guide to safe welding operations. Contains valuable suggestions on the operation of welding equipment, the storage and handling of cylinders, hose and calcium carbide as well as proper maintenance procedures.

Safety Catalog 268

The Ray-O-Vac Co. New catalog describes a complete line of safety equipment, from safety glasses to flashlights and batteries. Of special interest to safety men are the new flashlight signal-wands.

Safety Solvent Catalog 269

Fine Organics, Inc. Catalog features a compilation of revised specification sheets on a complete line of safety solvents. New applications are outlined. It offers a wealth of information for the production, maintenance, engineering or safety executive.

Calcium Chloride Fights Fire .. 270

Calcium Chloride Institute. Brochure is a "must" for instructing personnel in the use of calcium chloride as a fire-fighting aid. It describes how to prepare the solution for various types of equipment and maintenance in fire pails, barrels and anti-freeze extinguishers. A convenient chart enables users to prepare the solution to proper strength and quantity for specific jobs.

Safety Procedures for Air & Gas Drilling 271

Well Completions, Inc. Bulletin provides an outline for the schooling of rig personnel in safety habits during air or gas drilling operations. This training aid will help create employee awareness as to just what hazards are involved in these operations. Brochure discusses compressor location, rig location, operations prior to drilling and actual drilling operations.

Acid Resistant Ware for Industrial Laboratories 272

General Scientific Equipment Co. 20 page catalog covers polyethelene and nylon products, not affected by acids, oxidizing agents, hydroxides and polar liquids for industrial laboratories. 95 products are illustrated and described.

Automotive Lighting and Safety Equipment 273

R. E. Dietz Co. A complete line of automotive lighting and safety equipment is described in a new 3-color product manual. Turn signals, mirrors, stop lights, clearance and marker lights, flare kits and extinguishers, etc. for buses, trucks, cars and tractors are illustrated.

Multiple Safety Lock-out 274

Dayton Rogers Mfg. Co. Data sheet illustrates the important functions of a multiple safety lock-out in avoiding costly injuries to equipment and personnel. Lock-out is designed for use on such electric sources as fuse boxes, etc.

GUARDS AND ACCESSORIES

Power Press Feed 275

V & O Press Co., Div. of the Emhart Mfg. Co. Reprint illustrates how an automatic press feeder can increase production and at the same time reduce crippling accidents by keeping hands out of the danger zone, the die bed area, in metal forming operations, etc. Feeder can be used on all types of power presses including gear driven models, hopper and stacking-type feeds, etc.

Kick-Press Safety Guard 276

Seerjeant Metal Products, Inc. Data sheet depicts new guards for an air-driven press and a drill press. Unit features a plastic shield, lock and an inconspicuous guard wire. A finger or any other obstruction instantly locks the ram to prevent completion of the stroke.

Safety Guard for Punch Presses . 277

The Luther Mfg. Co., Inc. A brochure and instructional manual describes a press guard that protects operators against their own careless motions as well as mechanical failure or repeats, etc. of the press. Press will not operate unless the barrier or guard shield is in place keeping hands out of the danger zone during press operations.

Electronic Safety Control 278

Security Controls, Inc. Brochure depicts an electronic guard unit which sets-up an invisible screen of radio waves between a machine and an operator. If hands or a person's body breaks the radio screen machinery is automatically shut-down.

(Continued on the next page)

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Guide Pin Covers 279

Central Safety Equipment Co. Booklet illustrates how guide pin covers close the gap between pins and bushings to protect dies from accidental nicks, etc. and prevent injury to operators. Units can be used on shop equipment and as a protective covering for finished products such as trucks, washers and electronic computers.

MATERIALS HANDLING

Efficient Lift Truck Operation ... 280

Allis-Chalmers, Inc. A complete and highly informative guide for lift truck operators. Included are well illustrated descriptions of operational techniques which help to assure maximum performance. Important safety rules round out this brochure.

Analysis of Material Handling Costs 281

Manpower, Inc. Compiled in an easy to read booklet are 100 well defined methods for streamlining material handling procedures. Divided into various categories, equipment, delivery, storage, etc., each group contains practical and economical suggestions.

Freight Cart with Replaceable Deck 282

Lewis-Shepard Products, Inc. Circular depicts the operating and design features of a new line of freight carts with replaceable and removable hardwood decks. Units are available for either manual, in-floor or overhead dragline operation. Carts have a 2,000 lb. capacity.

PERSONAL PROTECTION

Heat & Abrasion-Resistant Clothing 283

American Optical Co. Data sheet introduces a new line of lightweight heat and abrasion-resisting clothing. Made of a coated asbestos, the line features mittens, coats, leggings and pants. Recommended for use in open hearth operations, scarfing, heat treating, pouring, cutting and the gas burning of metals.

What's YOUR Problem?

- **Has an accident or fire interrupted production?**
- **Want to know how to prevent it?**
- **Do you need background information on equipment for industrial safety, hygiene, or maintenance?**

As a service to its readers, "Safety Maintenance" will arrange to supply manufacturers literature on the following subjects. Just insert the key number on the Reader's Inquiry Card on the preceding page and be sure to fill in your name and address. If you need information on a specific type of product, simply write it in on the Inquiry Card.

Key Number	Subject
	PERSONAL PROTECTION
101	Safety Goggles
102	Face Shields
103	Lens Cleaning & Anti-Fogging Equipment
104	Sweat Band
105	Hard Hats
106	Respirators & Masks
107	Protective Clothing
108	Women's Protective Clothing
109	Safety Belts
110	Safety Gloves
112	Anti-Slip Soles
113	Oil Resistant Soles
114	Welding Helmets
115	Welding Curtains
116	Ice Grippers
117	Safety Shoes
118	Safety Boots
	FIRST AID AND HYGIENE
120	Protective Skin Cream
121	Skin Cleansers
122	Sanitary Drinking Facilities
123	Athlete's Foot Control
124	Salt Tablets
126	Antiseptic Medication
127	Burn Medication
128	First Aid Kits & Supplies
129	Stretchers & Litters
130	Throat Medication
131	Eye Wash Fountains
132	Hand Drying Facilities
133	Disinfectant—Deodorants
134	Hearing Testers
135	Hearing Protectors
136	Noise Analysis
	FIRE PROTECTION
141	Safety Cans
142	Fire Alarms
143	Safer Solvents
144	Degreasing Machines
145	Drum Safety Valve
147	Fire-Resistant Hydraulic Fluids
148	Watchmen's Control Systems
149	Extinguishing Ash Trays
	LIGHTING EQUIPMENT
150	Alarms & Warning Lights
153	Fluorescent Lamp Guards
154	Emergency Lights
155	Highway Emergency Flasher
	MAINTENANCE
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161	Anti-Slip Waxes & Finishes
162	Floor Cleaning Compounds
163	Floor Cleaning Machines
164	Floor Resurfacing Materials
165	Paints
167	Roof Coatings
168	Bird Control Devices
169	Toilet Sanitizers
	LADDERS & HANDLING
170	Ladders
171	Ladder Safety Devices
172	Scaffolds
173	Work Platforms
175	Safety Hooks
176	Fork Truck Steering Aid
177	Plastic Acid-Containers
177A	Carboy Pumps
	GUARDS
178	Machine Guards
179	Power Press Feeders
180	Safety Tools
181	Vacuum Sheet Lifters
182	Valve Operators
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193	Employee Safety Guide
194	Bulletin Boards
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Safety Maintenance

formerly "SAFETY ENGINEERING"

Volume 116, Number 5 **November, 1958**

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AMERICA'S PIONEER MAGAZINE IN ITS FIELD

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● WHY PARTIAL EYE PROTECTION?

THE fact that we have no quarrel with the great Mellon Institute of Pittsburgh is evidenced by our use in the October Issue of SAFETY MAINTENANCE of their guide for setting up a safety manual. We merely go on record as exercising editorial prerogative in saying that the Mellon Safety Guide does not go far enough along the path to full eye protection!

A case in point is the Mellon recommendation that, "maintenance men or other personnel using any type of tool causing flying particles (grinding, drilling, chipping, cleaning with steam or compressed air) when working in shops or labs, must wear safety glasses." What about other corollary operations? Why not eye protection for other hazardous operations or, equally important, *for those workers who may be in the vicinity of danger while not actually engaged in* "target" duties? It is not at all inconceivable that an employee or a supervisor may be writing a report in the general area of flying particles; he certainly was not engaged in grinding or chipping *but he could easily lose an eye* without full eye protection.

According to the Mellon Guide, "goggles or face shields must be worn when transferring corrosive or hazardous liquids, etc." Pity the poor co-worker unfortunate enough to be in the immediate vicinity but whose protective eyewear may be around his neck, up on his forehead or dangling from a back-pocket. Another costly tragedy chalked up.

Information supplied from many industrial firms located throughout the country make it lamentably clear that an eye safety program is weakened and woefully inadequate where only a portion, rather than all, employees wear eye protective devices throughout their entire work day. Records prove beyond any reasonable doubt that a sizeable percentage of all industrial eye injuries occur as the result of a co-worker's actions or from being struck by an object, molten or corrosive liquid *originating from an adjoining area.*

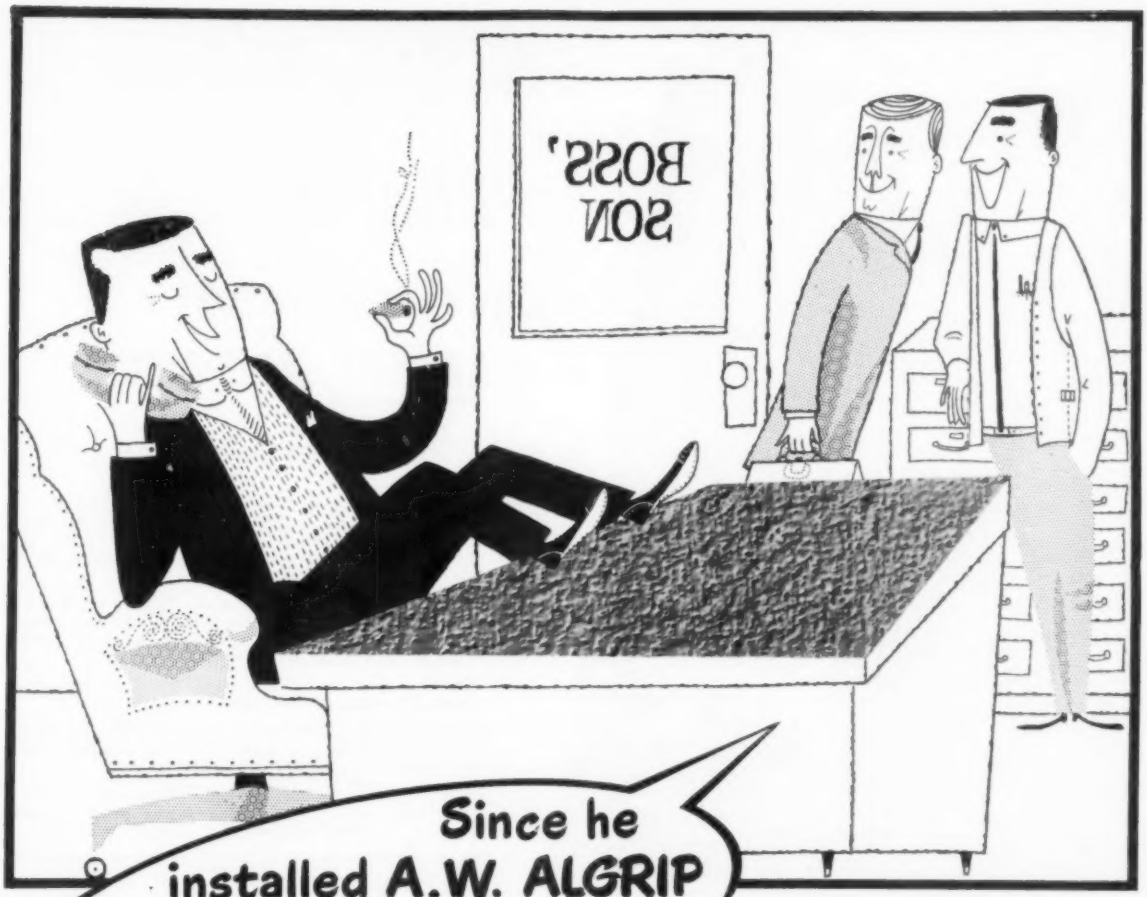
Industry suffers about a thousand eye injuries every work day, 90% of which are preventable with eye protective devices. It is too much to expect that every employee comes equipped with a built-in crystal ball enabling to determine just who will suffer the next eye accident. Nor can it be foreseen when and where it will occur.

Partial eye safety programs are predestined to failure. Since sound AND COMPLETE sight saving programs do something *for* rather than *to* the employees, there can be no objection from employees, unions or management when such programs are employed and teeth are put into all regulations to protect everyone in the plant.

It is now legendary that many years ago the Pullman Company inaugurated a complete sight saving program through mandatory rules requiring all employees, and visitors alike, to wear eye protectors in their plants. Their graph of eyes lost took a nose dive the very first year. Today, an internationally known instrument company has worked 140 million manhours without an eye lost and another so-called hazardous operation has built up a record of 14 years without a single eye lost.

There is only one way of achieving total eye protection and that is through universal coverage throughout the plant during the entire working day. Anything less is often worse than no program at all as it creates the illusion that the danger of needless eye injuries has been licked. False security is no security. The answer is gate-to-gate eye protection for all employees in the plant.

Obviously, Mellon Institute's Manual is not intended to protect only part of the working staff—that organization would be the first to advocate with all possible force removing the element of danger to any man in the plant. The answer is full eye protection in the form of scientifically designed safety eye-wear for all concerned in safeguarding the human organ for which there can be no artificial substitute.



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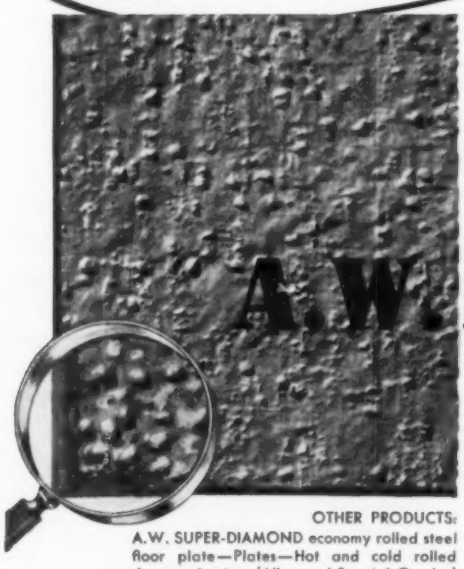

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- **What are the safety and maintenance factors of specific paints . . . the importance of the Color Code and where to use red, green, white, orange and even purple . . . who specializes in such paints?**
- **What are the most economical types of materials handling equipment for you?**
- **What is the importance of a uniform code for safety signs and signals . . . where can you find materials which will fit a planned program?**
- **What are the essentials for hand soaps and cleansers to protect the skin . . . the types of protective creams to prevent skin rash?**
- **What are the various types of electrical equipment approved by the Underwriters' Laboratories for specific conditions of hazardous gases, vapors and dusts . . . who makes them?**
- **What are the vapor hazards of flammable liquids . . . what fire prevention containers and equipment will do exactly the right job?**
- **What is the range of protective clothing, such as 70 different types of protective gloves . . . the specific merits and uses of each one—which is the very best for you?**
- **What can you save in time, money and production by selecting the right ladder for an operation?**
- **When will awards and placques speed up production?**

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Eleventh Annual Convention of the International Rescue and First Aid Association (Hotel George Washington). Max L. Spray, executive director, International Rescue & First Aid Assoc., 101 N. Alfred St., Alexandria, Va.

Pittsburgh, Pa. *November 17–19*

Fall Conference of the National Fire Protection Association (Penn-Sheraton Hotel). Dueul Richardson, Public Relations, National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

New York, N. Y. *Nov. 30–Dec. 5*

Annual Meeting of the American Society of Mechanical Engineers (Statler and Sheraton-McAlpin Hotels). American Society of Mechanical Engineers, 29 W. 39th St., New York 18, N. Y.

Cleveland, Ohio *January 26–29*

Tenth Plant Maintenance & Engineering Show and Conference (Public Auditorium). Clapp & Poliak, Inc., exposition management, 341 Madison Ave., New York 17, N. Y.

Philedephia, Pa. *March 4–5*

Twenty-Fifth Annual Regional Safety & Fire Conference and Exhibit (Bellevue-Stratford Hotel). Harry H. Verdier, Executive Director, Safety Council, Chamber of Commerce of Greater Philadelphia, 121 S. Broad St., Philedalphia 7, Pa.

Boston, Mass. *March 16–17*

Thirty-eighth Annual Massachusetts Safety Conference and Exhibit (Hotel Statler Hilton). Bruce Campbell, Manager, Massachusetts Safety Council, 54 Devonshire St., Boston 9, Mass.

Fort Wayne, Ind. *March 17–18*

Northeastern Indiana Safety Conference & Exhibit. Ivan A. Martin, Manager, Safety Council, Chamber of Commerce of Fort Wayne, Ft. Wayne 2, Ind.

Los Angeles, Calif. *March 23–25*

Sixth Annual Western Safety Congress & Exhibits (Ambassador Hotel). Greater Los Angeles Safety Council, 3388 W. 8th St., Los Angeles 5, Calif.

New York, N. Y *April 13–17*

Twenty-ninth Annual Greater New York Safety Convention and Exposition (Hotel Statler). Greater New York Safety Council, Inc., 60 East 42nd St., New York 17, N. Y.

Syracuse, N. Y. *April 20–22*

Sixth Biennial Central New York Safety Conference and Exposition (Hotel Syracuse). Newell C. Townsend, Administrative Secretary, Central New York Chapter A.S.S.E., 351 S. Warren St., Syracuse 2, N. Y.

Roanoke, Va. *May 18–20*

Virginia Safety Association Conference (Roanoke Hotel). James T. Wadkins, Mgr., Virginia Safety Association, 2051 Monument Ave., Richmond 20, Va.

NOW! from Bausch & Lomb, an ALL-NEW Cup-Type GOGGLE LINE

NEW! A complete, improved line of chippers' and welders' goggles in regular and coverall types!

NEW size, new safety-comfort contours, new visibility!

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NEW efficiency features, cleanliness features, new interchangeability!

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Please rush illustrated spec folder (A-1684) showing the all-new Cup Goggle Line.

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(For details, use Key # X-4 on card on page 1)

TO HELP PROMOTE SAFE PRACTICES,

on and off the job . . .

HY-TEST
announces the

Industry has a great stake in the Safety of its employees. Injuries mean loss of time, loss of production and unnecessary compensation costs. One out of ten industrial injuries involve feet and toes. It is important to everyone concerned with Safety that the incidence of such injuries be constantly reduced.

To encourage even greater use of Safety Shoes on *and off* the job; to recognize employees who wear Safety Shoes; and to commend those who have avoided serious injury by wearing Safety Shoes, HY-TEST is sponsoring the Golden Shoe Club.

The Golden Shoe Club has been established to review all authentic cases and present an award of recognition and commendation. There are no strings attached.

Each recipient is made a lifetime member of the Golden Shoe Club and receives an attractive Certificate and two special Insignia—a golden Lapel Pin or Tie Tack and a Shop Badge.

Here is a means by which you can further stimulate interest in Safety, generally, and Foot Safety, in particular.

If you have not yet received complete details on the GOLDEN SHOE CLUB, write today. We'll be pleased to forward the GSC folio.

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HY-TEST INTERNATIONAL SHOE COMPANY SAFETY SHOES

HY-TEST

SAFEty SHOES FOR EVERY NEED

(For details, use Key # X-5 on card on page 1)

new road to off-the-job safety

Part of company safe driving program, this bumper emblem, reflecting car lights at night, itself becomes safety device.

Here are some of the reflective bumper emblems symbolizing the safe driving program of respective sponsoring companies.

Industrial firms which have successfully combatted on-the-job accidents are turning their sights on another costly area of accidents: off-the-job accidents which result in expensive absences.

Some industries point out that these highway, home or vacation accidents are now the primary problem. They result in increased costs ranging from production bottlenecks to higher insurance rates.

An Eastern steel company, for example, pointed out in an advertisement that during a twelve-month period its 20,000 employees experienced only 17 disabling injuries while on the job, but 196 disabling injuries while off the job—most of them incurred on the highway or around the home.

A national appliance manufacturer with 80,000 employees reported that during a single year 11,793 working days were lost because of off-the-job accidents; 23 deaths occurred due to off-the-job accidents. Even aside from the normal human concern for the loss of life or the injury of a fellow human being, this company reported insurance costs approaching a half-million dollars. It was impossible to total other costs, such as retraining skilled employees, delays in production and shipping, and other problems arising from the vacancies—either permanent or temporary—caused by off-the-job accidents.

In nearly all cases, a significant part of this accident cost—ranging from 10 percent to 35 percent of all off-the-job employee accidents—occur on the streets or highways.

Captain W. L. Groth, Safety Engineer of the Virginia Department of State Police summed up both the problem and the solution

Company highway safety programs combat costly absences . . .

in a recent speech before industrial safety personnel.

"With shorter work weeks," he said, "employees have more free time and are using it on our highways. We must make them as safety conscious at play as they are at work."

Among the traffic safety needs listed by Captain Groth were: Better knowledge of motor vehicle laws; better driving training and education; improvement of mental attitudes; and knowledge of visual limitations of drivers.

Such are the points that are found in most company sponsored driver safety programs being launched for a single, basic objective: The mutual self-preservation of the employee and the company.

Two further benefits have also been discovered by companies launching driver safety programs. The programs help promote employee relations in that they unite employees and management in a common, off-the-job objective; and the programs promote better community relations by bringing to the attention of the public the sincere concern with the community's traffic accident problem and sincere desire to do something about it.

In nearly every case of company driver safety programs, the intangibles of safety and united effort have been made manifest through some sort of emblematic symbol—often a reflective bumper emblem made of reflective sheeting which the employee sticks to his car bumper and which itself acts as an after-dark safety device. This emblem also lends itself to the community relations program because it points out to the community the large segment of the population connected with the sponsoring company.

Such emblems, for example, are carried by Bethlehem Steel em-

ployees from the plant at Bethlehem, Pennsylvania to their residences as far as 75 miles away. Similar results are reported by U. S. Steel which utilizes the reflective yellow flag bumper sticker in its KNE (Knowing's Not Enough) Safety Program. The yellow flag symbol was borrowed from the racetrack official's emergency signal and is used to symbolize the KNE program and remind U. S. Steel employees that it's the use of know-how that counts.

Dupont's Safe Drivers' League is a voluntary program which originated at the company's plant at Old Hickory, Tennessee, spread to the May plant and finally to the Savannah River plant where it was expanded to include a continuing program of driver education. Originally the program involved a windshield sticker and pledge card given to employees interested in promoting safe driving within their own family and among their friends. The Savannah River plant adopted the reflective bumper emblem since, as a night safety device, it fitted into the objectives of the program. Now the Dupont program has been adopted by other Dupont plants and offices.

One Dupont plant reports that "since the inception of the Safe Drivers' League, the number of automobile injuries has dropped from 3 per month to 1 per month." Another plant says that "to date we are very well pleased with the results of our program as we have had only one automobile accident. During a corresponding period prior to the advent of the League, we had eight lost-time injuries in connection with motor vehicles. We feel that our program has had beneficial effects, and no doubt the safer thinking in connection with driving has had its good effect on general safety thinking. Due to numerous requests by employees to have their families participate in the Safe Drivers' League, we are extending our program to include those family members who make requests."

Safe driving programs, which must be a cooperative employee-management program to be successful, involve passing along ideas which point out the necessity for safe practices when driving, making known the tips, practices and techniques which lend themselves toward safety. Besides bulletin boards, posters, and employee handouts, the employee publications have been found a useful and effective means for disseminating the basic safety information.

A story in the Dupont Chattanooga plant's "Nylon News," for example, published a story at the inception of that plant's program which explained the Safe Drivers' League, its objectives of decreasing traffic accidents and "eliminating the suffering and loss of life which nearly always results from them," explained how to join, described the reflective bumper emblem the member would receive, that the campaign was a united effort of employees and management. Then the story went on to list 13 major driving rules which bear on driver attitude as well as the mechanics of safe driving.

An article in the "Inland Steel" employee publication pointed out that "a man killed off the job is just as dead as one killed on the job, and off the job is where steel workers have most of their accidents." Off-the-job safety is the employee's private business, the article continued, "but we can ask him voluntarily to drive safely for his own and his family's sake. That's the idea behind our Safe Driving Club."

The "Inland Steel" program utilizes two reflective stickers: A large one for the bumper, and a small one to stick on or near the speedometer as a visual reminder constantly before the employee driver when he's behind the wheel.

Pictures by courtesy of Minnesota Mining & Mfg. Co.

Safety Featured On Network Show

Public safety, and the activities of the National Safety Council, was the theme of a nationwide radio program broadcast October 19, by Alex Dreier, noted news analyst and radio commentator, over the entire NBC-"Monitor" network of nearly 200 stations. Dreier's salute to public safety tied in with the 45th Annual National Safety Congress and Exposition.

The broadcast is one of a series of salutes to different fields of American activity, called "America on the Go," featuring Alex Dreier and sponsored by North American Van Lines, Inc. Each of Dreier's programs salutes an activity or industry at the time of its annual trade show or exposition.

Dreier told his audience of 9 million radio listeners that many of them would not be alive except for the efforts of the National Safety Council, and that 700,000 lives have been saved since the council was organized in 1913, as shown by declining accident rates.

Tribute was paid to the small group of far-sighted pioneers who created the council during the period when machinery was replacing manpower in industry, and who believed that accidents were **not** the inevitable price of progress. All of those men—branded at the time as visionaries, do-gooders and professional bleeding-hearts—are gone now, but all of them lived to see their efforts grow into a strong and respected instrument for human good. The 13,000 members of the National Safety Council are concerned not only with safety in industry, but in traffic and transportation, schools and colleges, homes and farms.

The accident rate is still high, partially due to the rapid increase in population, Dreier told his listeners, but also to the unwillingness of the public to accept the safety measures devised for them. He stated that the leading cause of death among persons from one to 36 years of age is accidents, not cancer or heart disease, and that in persons of all ages accidents are the fourth leading cause of death. At the Congress in Chicago, all contributory causes of accidents were discussed, from guided missiles and jet noise to just plain crossing the street or falling down the stairs.

Ned H. Dearborn, President of the National Safety Council, has expressed the thanks of the Council for the salute to safety by Dreier and North American Van Lines as an outstanding example of the leadership and support industry has given and is giving to the Council and to accident prevention.

The sponsor, North American Van Lines, holds a national safety award and numerous other tributes to the careful driving of its personnel.

VANGUARD SPRAY GUARD

Fueling the Vanguard rocket is a delicate and potentially dangerous task, but no safeguards have been overlooked for the protection of personnel at the Cape Canaveral, Florida, launching site.

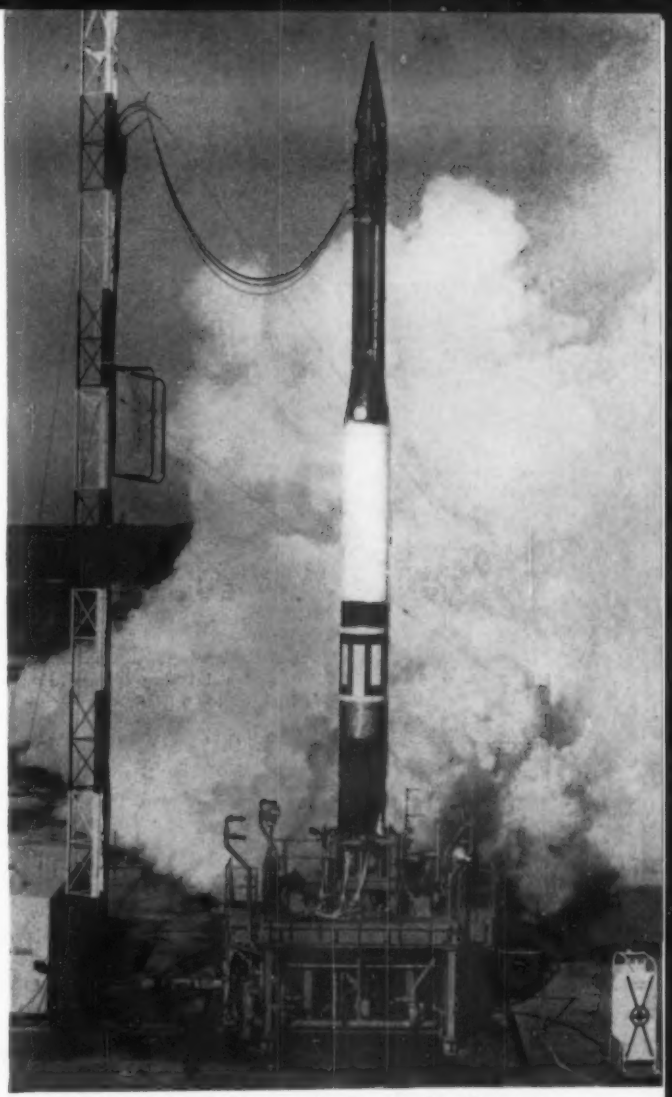
One of the safety devices on the missile-launching platform is a fog-nozzle system that automatically goes into operation when trouble develops. It can also be manually activated. If a Vanguard vehicle launching attempt miscarries, this system drenches the platform and surrounding area with a protective spray.

The fog-nozzle system posed a special piping problem because of the compactness of the launching platform, according to the engineers who designed and built the platform for the launching vehicle.

The engineers solved the problem of installing the piping in a limited area by using welded fittings. The fittings not only permitted short radius changes in direction but also made possible leakproof joints and eliminated maintenance expense that might have been unavoidable had threaded fittings been employed. In addition, welded construction provided optimum flow conditions.

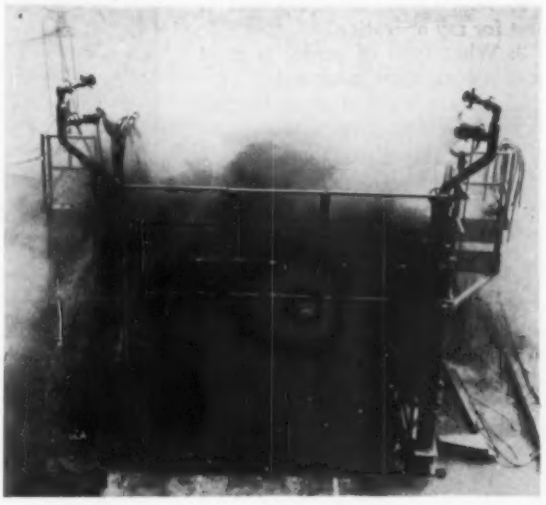
The welded fittings are used in 4-to-12 inch lines carrying water at pressures up to 175 pounds per square inch and in the three-quarter and two-inch lines carrying air pressures at 125 pounds per square inch. The system supplies a combination of 80-degree water and air to the fog nozzles placed strategically around the perimeter of the launching platform.

Pictures by courtesy of Tube Turns Div., Chemetron Corp.



A fog nozzle system that automatically drenches the area with a protective spray when trouble develops in launching attempts stands guard as Vanguard undergoes static tests.

Photo below provides an approximate notion of way in which fog nozzle system envelops area which requires protection.



Tips on Materials Trucks

Fig. 2—Low floor capacity in this building necessitates use of this hand lift truck. By pumping foot pedal, operator can raise the load hydraulically.

Expanding costs is a term that commands real respect in today's competitive market. Materials handling has been a prime target of the cost-cutting movement because it is an operation that adds nothing to the value of a product, only to the cost. In fact, it conservatively represents 25 percent of the cost of the average product.

It is obvious that economical materials handling represents a major opportunity to reverse the trend toward rising costs. Before investing in new equipment, however, companies should first ask themselves three questions:

1. Can the investment be justified?

2. What type of equipment is best for my operation?

3. What type of power is most economical, most adaptable?

There are ways of answering all three questions. For instance, justifying the investment is usually a case of time, labor and/or space savings, and also increased safety and lowered accident costs. If an electric fork truck reduced the working force by one man or prevented a serious accident, this alone would justify the investment. At current wage scales, the two-year salary of one man probably would exceed the initial investment in the electric truck.

Space savings would also be possible since fork trucks are capable of stacking goods right to the ceiling in warehouses. Under manhandling methods, this is almost a physical impossibility, or, if attempted, would lead to accidents and strained backs.

Boost Storage Potential

To cite an example, electric fork trucks are able to stack goods to heights of 15 feet and more (Fig. 1). The average person cannot reach heights half this distance. Thus, it can be seen that a truck can frequently increase a warehouse's storage potential by 50 percent. Sometimes this has precluded a costly new construction program for companies.

A good standard is that new materials handling equipment repay its investment within two years. If the equipment does not meet this standard, it should be considered economically unfeasible.

What Type Equipment

The next consideration is the type of equipment suited to the operation. Basically, this is a question of hand vs. power equipment.

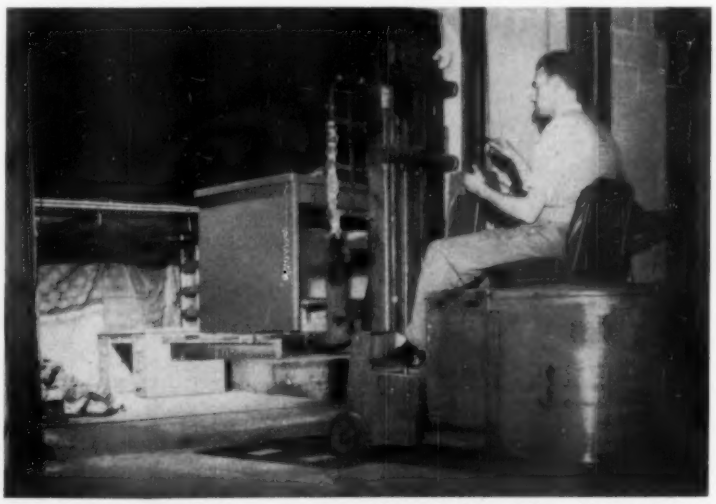


Fig. 3—Electric fork lift truck accomplishes tasks quickly. Uses minimum time for long trip it makes regularly between storage area, shipping dock.

Selecting Handling

by **HOWARD M. PALMER**
Vice President
Lewis-Shepard Products, Inc.
Watertown, Mass.

Fig. 1—Goods are high-stacked right to the ceiling in this warehouse by electric fork truck. Thus firms can raise storage capacity without expansion.

. . . . good training of operators reduces industrial truck accidents . . . .

Some observers are unduly power-equipment conscious . . . to the detriment of hand. But manual trucks are preferable in certain situations (Fig. 2). One situation is where floor capacities are low. Another is when operating space is extremely limited and short hauls are the rule. And, of course, hand equipment is lower priced than power.

For situations where goods are to be transported fairly lengthy distances (Fig. 3), power trucks are the choice. Goods can be stacked to greater heights with the power, and, naturally, power does its jobs faster.

Therefore, the choice of hand or power is dependent on the operating conditions. It could be, though, that a combination of both hand and power (Fig. 4) would work to best advantage. In such a case, the hand equipment would be performing so-called "in-between" jobs.

Rider Vs. "Walkie" Trucks

Actually, there is still another facet of this question. It concerns rider-type trucks as opposed to "walkie" units. "Walkie" trucks, which are powered vehicles operated from a control handle while walking along with them, are for short hauls and use in narrow aisles. The rider-type is best suited for long hauls and operating on ramps. Like the "walkies," they are capable of high stacking goods, but generally require more room to maneuver.

In any event, only a manufacturer offering a full line of both hand and power trucks can impartially evaluate the need. And the manufacturer should be able to offer equipment especially "tailored" to the operation.

After the first and second questions have been answered, the potential buyer must select the source of power he desires for his truck.

In situations where the vehicle is to be used indoors primarily, an electrically-powered truck is a natural selection since it releases no noxious fumes nor bothersome odors to contaminate the air. Furthermore, there is no fire hazard from combustible fuels since electric trucks are powered by a storage battery. Electric trucks can be "refueled" right in the building (Fig. 5) at a convenient battery recharging station.

Have Longer Life Span

The initial investment in electric trucks is somewhat higher. But since the electrics have a longer life span and cost less to maintain and operate, they may in reality be a better investment.

The cost of maintenance should not be considered in terms of labor and parts costs exclusively. Equally important is the accumulated truck downtime. An idle truck is costing

(Continued on the next page)

Fig. 4—Hand and power equipment work together in this plant. Goods are high stacked by electric fork truck, while hand hydraulic type picks up orders.

the user additional money. As a matter of fact, an idle truck is defeating the purpose of its very existence—smoother flow of work.

For these reasons, there has been a noticeable trend toward electrics for indoor operation in recent years. Like any other equipment, though, all facets of the problem should be considered prior to investing in materials handling products. Some manufacturers offer a free pre-installation survey as a standard part of their service.

After the survey has been completed by a materials handling engineer, he analyzes the results and makes definite recommendations for new procedures and equipment.

When the new equipment arrives at the installation site, personnel that will operate the equipment should undergo a brief training course. Again, it is the materials handling engineer that presents the course.

Only through these courses will the company obtain the optimum performance from its new equipment. While materials handling equipment normally significantly decreases the accident rate, the training plays a major role in making this possible.

In any event, it is the professional approach to a materials handling problem that can reap big cash savings for any company, large or small. The application of the proper equipment is, in fact, an important method of reversing the current inflationary trend—and putting profits back in any business picture.

Pictures by courtesy of Lewis-Shepard Products, Inc.

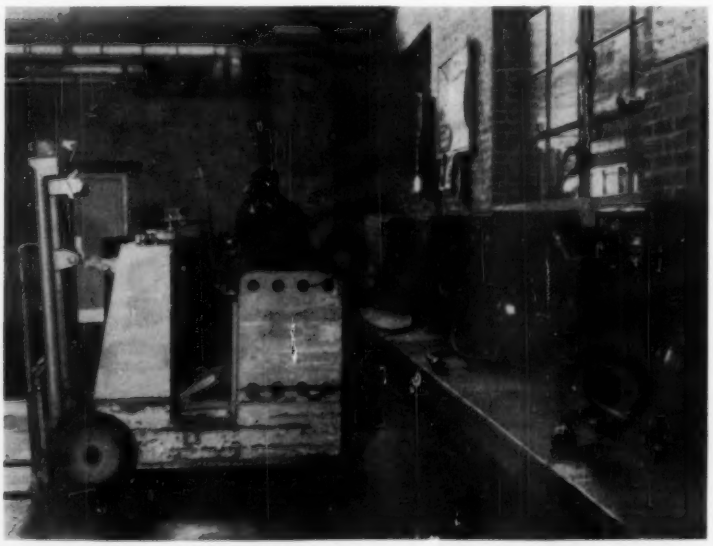


Fig. 5—Recharging the batteries of this electric fork lift truck is a simple task. Batteries are normally recharged at the end of each 8-hour shift.

Hazardous Job Orders Amended

Secretary of Labor James P. Mitchell has announced that certain hazardous occupations orders have been amended, effective September 23, to exempt student-learners enrolled in cooperative vocational training programs. These orders set an 18-year age minimum for employment in occupations declared by the Secretary to be hazardous for minors and are issued under the child-labor provisions of the Fair Labor Standards Act.

The new amendments, affecting Orders Nos. 5, 8 and 12, will permit 16- and 17-year-old student-learners to work part time under specified safeguards in cooperative vocational education programs in industries using certain woodworking and metalworking machines. Order No. 5 covers woodworking machines and Order No. 8, metalworking machines. An exemption already applies to student-learners working in some occupations covered by Order No. 12, for paper-products machines; the new action extends this exemption to all occupations covered by that order.

The orders were amended as the result of evidence and information received at a public hearing held in Washington, D. C., last summer. The hearing was held after a study was made by the Department's Bureau of Labor Standards.

Copies of the revised orders may be obtained from the Department's Wage and Hour and Public Contracts Divisions, which enforce the law.

automatic feeder for power press safety

By keeping human hands and fingers out of the die bed area during secondary press operations, an automatic feeding device not only eliminates the fear and risk of serious personal injury but markedly speeds production and greatly prolongs punch and die life. It is said to protect both operator and die while bettering manual feed rates in trimming, shaving and forming by as much as 200 percent.

The cam-operated Feed-O-Matic, consisting of a rotating table and transfer arm, precisely positions parts so small they have to be handled by tweezers as well as comparatively large ones of nearly a foot in diameter. The feeder adapts to most types of power presses, including gear-driven. No special dies are required, and conventional hand feeding tools are used. Slight modifications are made in some cases to insure air ejection.

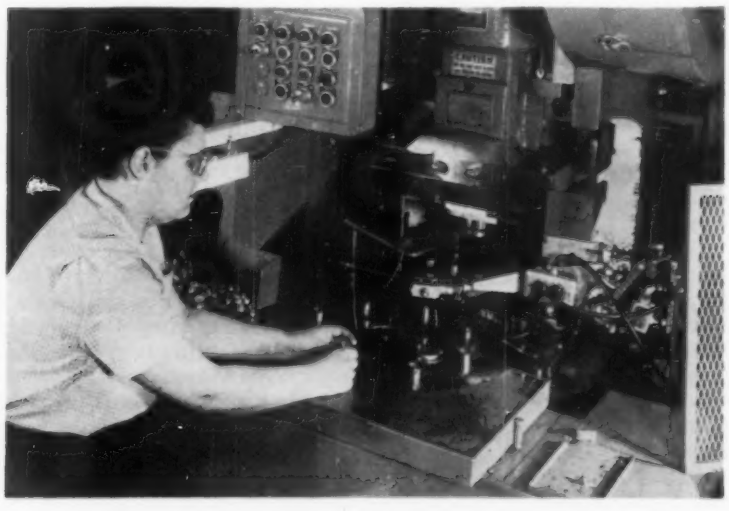
The operator places each blank into a shaped "nest" on a dial plate which fits on the rotating table. The plate is indexed to bring an empty nest to the front to receive a blank at a predetermined rate. As each blank reaches the rear position on the plate, the mechanical hand of the transfer arm picks up the part and carries it to the die where it is accurately positioned to receive the punch. In some recent press applications, automatic hopper feeding has been incorporated.

When the mechanical hand withdraws to pick up the next blank, the press is automatically tripped, the punch descends and the finished part is ejected from the die.

The operator, relieved of concern for personal safety and the need to watch the die and trip the press, works at a higher speed than is normally possible with hand feeding direct to the die. The dial table is operated either automatically or

(Continued next page, Col. 3)

(ABOVE) At no time do operators' hands or fingers enter the dangerous die bed area. Mechanical transfer arm, at right, picks up the blank and automatically trips the press.



(ABOVE—LEFT) Hundreds of nested dial plates are vertically stored in numbered bins, providing easy access.

(LEFT) An operator places a part on the nested dial plate of the feeder which will rotate clockwise to the rear position where the transfer arm will lift and place it in the die bed area.

Another Accident Checked

Safety shoes prevent serious foot injuries in widely scattered places other than industrial plants.

H. N. Guffey, Manager of the Insurance Department of The Cudahy Packing Company at Omaha, Nebraska, reports the following example. James Gaughan, a Cudahy employee, has realized for a number of years the importance of wearing safety shoes, although his occupation is such that the chances of injury to his feet are rather remote. Even so, he prefers not to take chances.

On a recent occasion, Mr. Gaughan was cutting his lawn with a power mower and while operating it on a low terrace, he lost his footing and fell backwards, pulling the mower up over his feet. The blades of the mower could not penetrate the steel toe cap within the shoes and, as a result, the motor cut out, stopping the whirling blade, but not before the shoes had sustained considerable damage, as shown in the picture.

Mr. Gaughan suffered bruises to his toes but is certain that had he not been wearing safety shoes, he would now be minus several toes and probably a part of his foot. Ordinary shoes, without the steel safety toe, probably would not have stopped the motor, allowing the blade to continue its gnawing action.

While the accident was not one that occurred during the course of employment, it does affect the Company since he lost no time from work, which result would have been far different had he not been wearing safety shoes, according to Marsh & McLennan, Inc., insurance brokers for Cudahy.

Picture by courtesy of Cudahy Packing Co.

Automatic Feeder

(from page 17)

by a foot pedal. As a result, worker fatigue and turnover are reduced to a minimum.

The mechanical hand of the transfer arm comes equipped with adjustable steel fingers or magnetic or vacuum pickups, the latter commonly used for flat parts.

The only "special" piece of equipment is the dial plate with nests custom-shaped to receive the individual pieces. These dial plates are made to work with the die in the press and are changed when the die is changed. Changeover to a different part seldom takes more than an hour, making comparatively short runs profitable.

Five cams, all mounted on a single shaft, control the movements of all parts. The five movements are: (1) indexing of the dial table, (2) tripping of the press, (3) vertical movement of the arm, (4) gripping and release of the mechanical hand or vacuum type pickup mechanism and (5) lateral movement of the arm.

The motor has a variable speed drive which is set to the maximum production rate of each job. The Micro Switch, located on the movable arm, is adjusted to make contact and stop the press if the mechanical hand has not reached the extreme downward position by reason of a fouled die or other cause of failure.

Besides allowing use of present power press and die equipment, the transfer arm and nesting table can be quickly moved from the front of the press when this is required by other work.

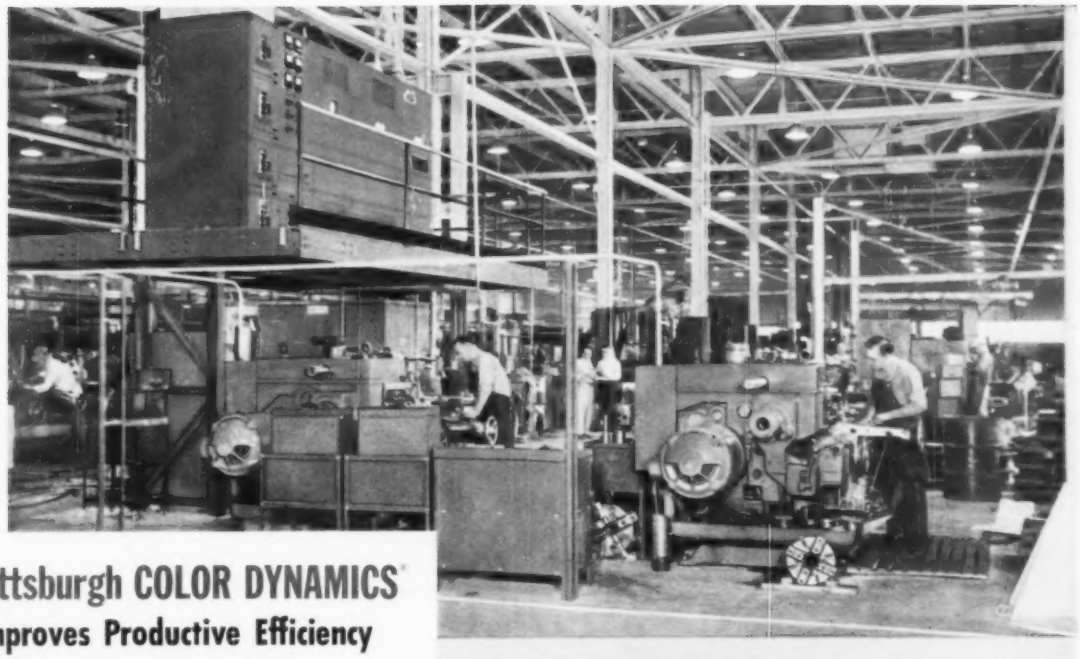
A source for further information about the automatic feeder can be obtained upon inquiry to the Editor.

Pictures by courtesy of V & O Press Div., Emhart Mfg. Co.

How to Put Out a Fire

Most fires start small. If an attack is made promptly with the right kind of first aid fire extinguisher—a portable or small mobile unit—the fire can be put out quickly and easily. However, the Fire Equipment Manufacturers' Association, Inc., points out that the right kind of extinguisher must be used. The wrong kind may do more harm than good.

For a copy of booklet described on opposite page, use Key # X-6 on card on page 1. →



Pittsburgh COLOR DYNAMICS® Improves Productive Efficiency in New Blaw-Knox Factory

New painting system relieves eye strain, reduces fatigue and provides greater safety for workers in modern road-paving equipment plant at Mattoon, Illinois.

BLAW-KNOX

THE NEW Blaw-Knox plant at Mattoon, Illinois, is another convincing example of the improvement in productive efficiency, safety and morale resulting from the use of Pittsburgh COLOR DYNAMICS.

● **This plant is devoted** to the manufacture of road-paving equipment—concrete pavers, spreaders, mixers, finishers, bituminous paving machines and road wideners. The 300,000-sq. ft. structure was designed by Sverdrup & Parcell, Inc., St. Louis, Mo., architects, and erected by the George A. Fuller Company of Chicago.

● **The interior** of this entire plant was painted according to the principles of COLOR DYNAMICS. The beneficial effects of this painting system are summarized in this comment by A. J. Cox, general manager of the Blaw-Knox Construction Equipment division:

● **"We selected colors** for interior walls and ceiling to create more cheerful surroundings for our workers. Stationary as well as moving parts of machines were painted in colors that help operators see their jobs better. Eye strain is relieved. Nervous tension and physical fatigue are reduced. Safety colors mark hazard areas and safeguard workers against dangers of time-loss accidents.

● **"Our experience** since opening the plant confirms our judgment that properly planned colors are a boon to management and workers alike. They are an aid to greater productivity. The pleasant environment enhances morale. Our entire work force takes pride in our plant's appearance. Work areas are kept clean, simplifying housekeeping. The cheerful and pleasing appearance helps us to recruit new employees in an area where skilled labor has been hard to get. And we enjoy all these benefits at no greater cost than conventional painting."

● **This new Blaw-Knox plant** is only one of thousands of factories in which productive efficiency has been improved by the use of COLOR DYNAMICS. Try it in your plant—in a department or on a machine or two—and see the difference it makes.

Let us Make a Color Plan of Your Plant—It's FREE!

● We'll be glad to mail you a free copy of our fully-illustrated book on COLOR DYNAMICS for industry. It explains what this painting system is and how to use it. It contains scores of practical suggestions. Better still, we'll be glad to prepare a comprehensive color plan of your factory, without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have our representative see you. Or mail coupon at right.

Send for a Copy of this FREE Book

Pittsburgh Plate Glass Co., Paint Div., Department SM-118, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your booklet "COLOR DYNAMICS."

☐ Please have your representative call for a COLOR DYNAMICS survey without obligation on our part.

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Now available with anodized aluminum temples

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HAND PROTECTION: GLOVES: Welder's, Asbestos, Steel Stitched.

MITTENS: Welder's, Asbestos, Steel Stitched.

BODY PROTECTION: CLOTHING: Wool, Flameproofed Cotton. **LEGGINS and SPATS:** Leather, Asbestos, Flameproofed Cotton. **APRONS:** Leather, Asbestos, Flameproofed Cotton.

Kimball SAFETY PRODUCTS COMPANY

9310 Wade Park Avenue • Cleveland 6, Ohio

Paint Conference

With paints and coatings having undergone a great revolution during the past 10 years, the Building Research Institute has scheduled a conference to examine progress and set sights for the future on these new materials and methods of application. Set for December 3–4 at the Shoreham Hotel, Washington, D. C., the meeting will be sponsored by National Paint, Varnish and Lacquer Assn. and the Painting and Decorating Contractors of America, with registration open to the interested public as well as to members and guests of the three organizations involved.

Main objective of the meeting will be to define for builders, architects, engineers and building maintenance people the advantages and limitations of the many new oils, pigments, solvents and other types of materials used in today's paints and coatings. The two-day session will bring to the rostrum 20 of the top men from the paint industry, plus panel discussion groups made up of painting and building contractors, building owners and maintenance men, home builders and government construction heads.

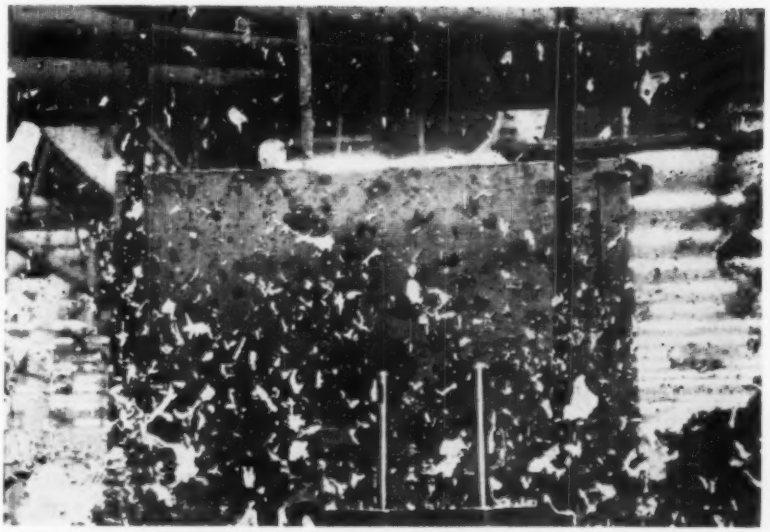
Go Under Microscope

Paints for industrial requirements will go under the microscope, with three speakers analyzing high humidity applications, high temperature applications, and severe chemical exposure applications. Faber Birren, widely known color consultant, will also discuss functional use of colors.

Comprising a complete round-up of materials and methods in this all-important field, the BRI Conference will draw in a wide cross-section of representatives from the building and paint industries, and the related professions. The Building Research Institute is a membership organization affiliated with the National Academy of Sciences-National Research Council. Requests for further information, final program and registration material may be directed to Harold Horowitz, BRI Technical Secretary, 2101 Constitution Ave., Washington 25, D. C.

Safety Maintenance SALUTES

A SAFETY IDEA



Guard Proves Its Value

The importance of good machine guarding in the prevention of eye and other injuries is strikingly illustrated in these photos from General Electric Company's specialty motor department, Fort Wayne, Indiana. The picture above shows a protective screen installed around a pot containing molten aluminum (at right), by direction of Herschel L. Smith, the department's safety coordinator.

The guard screen more than paid its way. The picture below shows what the screen looked like after moisture accidentally caused an explosion of the molten metal.

Picture from General Electric through "Wise Owl News."

How to Reduce Cleaning

FLOOR MAINTENANCE
other articles Dec. and Jan.

In most fields, American progress during the past twenty years has been almost unbelievable. Office workers now have modern equipment at their disposal that saves millions of man-hours daily. Fantastic progress has been made in the medical, architectural, chemical and other professional fields. Today, one man in a modern factory can turn out a part in less than two minutes, whereas 20 years ago the same part might have taken three men a full hour to produce. Yet, in many of these same modern offices, hospitals, schools, and industrial plants—which certainly must be considered highly efficient in most respects—the cleaning and maintenance operations are handled in very much the same manner as they were 20 years ago. This particular phase of the over-all operation has been almost entirely overlooked in the mad scramble for progress and growth.

Why should this be the case? Certainly modern, efficient maintenance equipment and supplies are available today from dozens of sources. The answer is a simple and an obvious one. Management, in most cases, has failed to invest in the administrative study, planning and development time and in the available time-saving equipment and supplies that cleaning and maintenance operations deserve today. They deserve it now, more than ever before, because of the steadily rising costs involved. Today, management is paying as much as five times more to clean an ashtray, to empty a wastebasket, or to clean a floor than it did 20 years ago. The job itself remains much the same as it did years ago, yet the cost of having the job done has increased tremendously.

"Price-buying" is one of the biggest and most over-worked traps that leads to higher costs. A great many cleaning and maintenance supervisors, purchasing agents, and building managers still buy all their supplies and equipment on price alone—with little thought, if any, given to comparative performance. Nothing can lead to rising operating costs faster than this "penny wise–pound foolish" buying practice.

Small Part of Cost

Even if you were given all your cleaning equipment and supplies absolutely FREE—you would save a maximum of only 10¢ on every cleaning dollar. The other 90¢ of that dollar goes for labor. The "price-buyer" will pat himself on

DO'S and DONT'S— For a Measured Work-Survey of CLEANING OPERATIONS

Should you decide to launch a full-scale "measured work" review of your cleaning and maintenance operations, here are some suggestions:

1. By all means, secure the services of a competent consulting engineer.

2. To take charge of the program, choose a supervisory person who knows cleaning from the ground up and who has the knack of getting along with his employees.

3. Make it clear to your employees that no one will lose his or her job if they cooperate. Be sure they understand what you are trying to accomplish.

4. If the help is organized, first "sell" the business agent. Offer to share part of the savings with the employees.

5. Set up careful procedures for follow-up and inspection to see that the quality of work does not deteriorate.

6. Be willing to accept what might seem to you to be radical changes in old established procedures.

7. Do not scare your employees by telling them that they're going to be analyzed to see how "efficient" they really are. Let them know this program is for the benefit of all concerned, and that no one is going to be expected to perform more than his fair share of the work. The prime purpose of the study will be to establish the over-all work load more fairly, and improve methods, that will actually make each worker's job easier.

the back for having saved a few cents on supplies and then will send his crew out and spend up to three times more money for high priced labor than necessary trying to get results from the inferior products that he purchased so "shrewdly."

This does not mean that the highest priced product is always the best. High price does not necessarily mean high quality. The only practical way to determine the best products from the standpoint of price and performance is to keep accurate records of cost-in-use. Without these records, it is impossible to compare performance features of the various products. Keep these records carefully, and purchase your supplies and equipment on the strength of what your records show. Only in this way can one become a "shrewd" buyer.

Are Work Studies Practical?

How big must a cleaning and maintenance operation be before measured work studies are practical? It is seldom necessary to conduct a complete measured work study of a one, two, or even a five man operation. The work being done by this small crew should be analyzed, of course, both from the standpoint of time requirements and quality of work performed. It is just as important to a small operation as it is to a large one that the work load be properly established and that a regular, efficient system be carefully followed. To do this is not so difficult a task in a small organization as it is in a large one, and it ordinarily can be accomplished quite readily if management will take the time to review carefully the job being done—the job that should be done—and determine ways and means to accomplish the desired quality of work on a more efficient basis. The reason for lack of efficiency and lack of quality in the cleaning operations in many small organizations can generally be traced back to the fact that management has never really taken the time to review their cleaning program and attempted to set it up on a regular, controlled basis.

Obviously, a moderate size building that requires the services of only two or three janitors has far less to gain in terms of total dollars to be saved annually through an improved cleaning system than does a large plant, institution, or office building employing 10, 20 or more janitors. Generally speaking, however, many of the same basic principles that are applied to the larger operations can be successfully applied to the smaller ones. Even though smaller companies may never find it practical to conduct a full-scale measured work study, a great deal of the material presented here applies to every type of cleaning operation, regardless of its size.

Payroll costs represent approximately 90 percent of an average building's total cleaning costs. Comparison of your payroll cleaning costs with those of other buildings can be extremely misleading for other than general information purposes or an indication of trends. The specific type of building and the wide variation in cost factors involved may cause wide differences in cleaning costs per square foot among buildings of identical size. Among the many factors are different quality standards, the methods used to calculate square foot areas, the proportion of problem areas such as toilets, corridors, and congested rooms, and the type work carried on in various areas of the building.

Result of Study

A recent Alden Elstrom Associates study of a number of medical buildings in a single area of the country where labor costs are approximately equal showed a variation of from .369 to .469 in **hours per square foot per year** for cleaning in this general type of building. This represents a 20 percent variance. The study showed the average hours per square foot per year for buildings of this type to be .404. Another study of a group of office buildings in the same area indicated a variance from one

building to the next of over 100 percent. The hours per square foot per year for cleaning ran from .218 to .490—averaging out at .29 hours.

How to Determine Your Annual Payroll Cost

First, determine your total annual cleaning cost in dollars. To do this, these factors must be included:

1. Wages, including over-time, and

2. Fringe costs, including payroll taxes, uniforms, vacation pay, pensions, sick leaves, insurance, and holiday pay.

The sum of these items will give you your total annual payroll cleaning costs. Next, determine the number of square feet in your building that require cleaning services of any kind—regardless of frequency. Finally, divide the total annual cleaning cost by the number of square feet. The result is your annual payroll **cleaning cost per square foot.**

Now, determine your **hours per square foot per year** by first calculating your **average** hourly wage. Consider all payroll fringe costs, as well as base rates, when determining your average hourly wage. Divide your annual payroll cleaning cost per square foot by this average hourly wage. The result is your hours per square foot per year. This gives you a final unit of measurement that reflects your true payroll costs. It is the unit by which the results of time and method studies of cleaning operations can be most accurately measured. An example is given in Table 1.

TABLE 1: Example of Determining Cleaning Cost

Annual Cleaning Payroll	**$75,000**
Applicable Square Feet	**120,000**
Annual Cleaning Cost Per Square Foot	**$.625**
Average Hourly Wage	**$1.30**
Hours Per Square Foot Per Year	**.48**

Through extensive studies, Alden Elstrom Associates have found that the "hours per square foot per year" should seldom exceed .30 for most types of buildings. If your costs exceed this, you should definitely consider making a thorough study of your entire cleaning operation.

How to Establish Times for Jobs

There is a considerable amount of information available from a number of different sources dealing with suggested approximations for the time needed for various individual cleaning jobs. These time tables should be used **only as a general guide**—as the layout of the building, level of quality required, the number of obstacles, etc., will cause considerable variance in these time standards. The standard time list shown in Table 2 (Page 25) approximates average working times for skilled workers **under average conditions.** Refer to it as a guide, but not as a definite example of what should be accomplished in your particular building.

In the final analysis, the objective of any time study is to determine the proper work load for each employee—in terms of minutes—and to compare this work load with the actual minutes that this employee has available in order to see whether or not best use is being made of his time. As an example of how this works, let's use a few of the standard times shown in Table 2. Assume that you have taken a job inventory of this area, as given in Table 3, and have established that the indicated units of work must be accomplished by this one workman during his 420 available minutes.

According to standard job times, it would take this workman 288.45 minutes to accomplish these jobs. To this, let's add another 40 minutes for preparation time—gathering necessary equipment, preparing solutions, replacing tools and supplies, etc. The workman still needs only 328.45 minutes of his total 420 minutes of available time to accomplish these jobs. His work load could be adjusted accordingly.

This is a simplified example, but it does illustrate how standard job times can be related to work inventory in order to determine work loads.

TABLE 3: Example of Application of Standard Job Times

	Job Inventory	*Standard Minutes*	*Total Standard Minutes*
1. Damp Mop	**9,000 sq. ft.**	**16 min. per 1,000 sq. ft.**	**144.00**
2. Machine buff	**5,000 sq. ft.**	**15 min. per 1,000 sq. ft.**	**85.00**
3. Empty wastebaskets	**40**	**.25 minutes per basket**	**10.00**
4. Dust desks	**40**	**.50 minutes per desk**	**20.00**
5. Empty and dust ashtrays	**40**	**.20 minutes per ashtray**	**8.00**
6. Dust tables	**60**	**.30 minutes per table**	**18.00**
7. Dust doors	**15**	**.23 minutes per door**	**3.45**
		Total Standard Minutes	**288.45**

Importance of Knowing Proper Work Loads

The cleaning work load in most buildings, regardless of type, is distributed among employees on the basis of the number of square feet that each man must service. This basis of measurement has long been used, primarily because few of the management officials who are responsible for cleaning operations have found any other suitable method of determining the work

(Continued on page 26)

TABLE 2: Standard Job Time List

This standard time list approximates average working times of skilled workers operating under average conditions. Refer to it as a guide, but not as a definite example of what should be accomplished in your particular building.

FLOOR RATES—Time in Minutes per 1,000 Sq. Ft.

	Unobstructed	*Slightly Obstructed*	*Obstructed*	*Heavily Obstructed*
Sweeping	9	10	12	16
Dust Mopping	7	9	12	16
Damp Mopping	16	23	27	32
Wet Mop & Rinse	35	45	50	55
Hand Scrub	240	300	330	360
Hand Scrub—Long Handle Brush	75	105	120	135
Machine Scrub—19″ Machine	25	35	40	45
Machine Polish—19″ Machine	15	25	30	35
Vacuum—Wet Pick-up	20	27	31	35
Vacuum—Dry Pick-up	14	17	19	23
Strip and Wax	100	120	140	180
Combination Scrub and Wet Pick-up Automatic Machine	5,000 to 20,000 sq. ft. per hour			

DUSTING	*Time in Seconds*
Ash Tray	15
Book Cases	
13″ x 35″ x 12″	22
36″ x 30″ x 8″	33
12′ x 40″ x 12″	216
42″ x 24″ x 11″	49
Cabinets	
36″ x 77″ x 18″	106
30″ x 66″ x 18″	42
Calculators	
Small	7
Large	9
Chairs	
Large	63
Medium	35
Steno	22
Cigarette Stand	25
Clock, Desk	8
Clock, Wall	20
Desks	
Large	48
Medium	43
Small	38
Desk Items, Misc.	3
Doors	
Without Glass	25
With Glass	40
Elevator Cabs (Inside)	196
Files	
4 Drawer	22
5 Drawer	27
Fire Extinguishers	16
In-and-Out Trays	8
Lamps and Lights	
Wall Fluorescent	8
Desk Lamp Fluorescent	18
Table Lamp with Shade	35
Floor Lamp with Shade	35
Partitions, Glass 50 sq. ft. per min.	
Pencil Sharpener	15
Pictures & Photos	
3′ x 5′	45
Medium	15
Small	15
Rack, Coat & Hat (6′)	90
Radiators & Window Ledge (124″ x 15″)	45
Radiator (Flush with wall) 40″ x 30″ x 6″	21
Sand Urns	60
Spittoons	180
Tables	
Large	60
Medium	35
Small	22
Telephone	9
Typewriter (Covered)	7
Vending Machine	60
Venetian Blinds (Standard size)	210
Waste Baskets	15

LAVATORY ITEMS	
Cleaning Commode (With partition)	180
Door (Spot Wash)	50
Door Latch	10
Mirrors	
25″ x 49″	20
60″ x 21″	20
88″ x 31″	40
Napkin Dispenser	13
Napkin Disposal	10
Paper Towel Dispenser	7
Paper Towel Disposal	10
Shelving	
20″ long	8
126″ x 6″	60
Urinals—Complete	120
Wainscotting (75–100 ft.)	25
Wash Basin & Soap Dispenser (Complete)	120

WASHING	
Glass Partitions	
Clear . . . . 8 sq. ft. per min.	
Opaque . . 20 sq. ft. per min.	

MISCELLANEOUS	
Door (Washing)	150
Drinking Fountain (Clean)	90
Vacuuming Large Divan	190

load. There is only one accurate method of determining a fair and proper work load for each employee, and that is through a detailed time and method study of the operations expected of him. The number of square feet serviced by each man will enter into the problem of course, but by no means should it be the prime factor in determining proper distribution of the total work load among the labor force.

Most maintenance supervisors will agree that wide differentials exist in cleaning requirements for different parts of a single building. These variances cause one worker servicing a "problem" area to have to put forth a greater effort than another worker servicing the same number of square feet in another part of the same building. A great many factors can cause these variances. Degree of soil, quality standards, required cleaning frequency, the type of work being performed by the regular employees in the area, and a number of other factors must be considered when determining fair work loads for each service employee.

An organization in which the total work load is evenly distributed among the entire labor force will be a smoother operating, more efficient team. Employee morale will be definitely improved.

A careful study of your cleaning requirements and of your labor time and methods will enable you to establish a fair work load for each man in your organization. The application of these proper work loads may lead you to an over-all annual reduction in cleaning costs of 25% or more.

Time studies, in their various forms, are by far the most widely known and accepted methods for determining "a fair day's work at a fair day's pay." Those who are not familiar with time studies will find that the most difficult aspect of it is learning how to determine and apply "leveling factors" which are necessary to compensate for variances in individual workmen's skill, effort, fatigue, and for unforeseen delays. The effort and skill expended by two different employees may vary as much as 50 percent or more. Obviously, when such a wide variation occurs, the question arises as to which of the two men's job times should be used as standards. Neither can be used until leveling factors have been applied.

As a completely theoretical example, a time study might be made of the operation of an automatic scrubbing and pick-up machine in the maintenance of a specific area. The operator's total time from the moment he arrives in the area until he departs might be 6 minutes; but this represents the theoretical time of an operator's cleaning motions and does not include such factors as individual skill, fatigue or delays.

The total "Standard Time" for this job might be set at 8.05 minutes, approximately 35 percent more than was actually used to machine scrub and squeegee the area.

Set Up Quality & Frequency Standards

The frequency at which an area of a building should be cleaned is based upon (1) the degree of soil, and (2) desired quality. Many maintenance supervisors and building managers today place too much emphasis on frequency, whereas the emphasis would be more properly placed if it were on personnel effectiveness. Alden Elstrom Associates have found, in many installations, after having made careful measurement of the times required for proper cleaning at the frequency rates set by the building management, that it would actually require that employees be added to the payroll if the incorrectly established frequencies were to be strictly followed.

A measured work program provides for close control of both quality and job frequency. It establishes a fair, standard time for each cleaning job—completed at a desired level of quality. These individual job time standards can then be applied to the total building cleaning job to be done by the entire labor force in order to set necessary frequencies to produce the quality desired.

A new basis for measuring quality has been developed for industry that is known as "statistical quality control." This plan reveals the actual performance as it normally occurs over a period of time. Statistical quality control is a sampling process used to determine the average performance and the occurrence at both extremes of the range of performance. Building managers and maintenance supervisors can apply this principle by sampling and rating performances in their cleaning operations. For example, let's assume that you are interested in determining the quality of cleaning on horizontal surfaces. Let's also assume that four different grades should be used to measure quality. They are (1) Poor, (2) Fair, (3) Good, and (4) Excellent.

Over a specified period of time, you will rate the quality of cleaning on horizontal surfaces. The results might appear this way:

	Number of Ratings	% to Total
Poor	6	7
Fair	10	13
Good	55	68
Excellent	10	12
Total	81	100

(This article will be continued in the December 1958 issue of "Safety Maintenance" and was prepared by Alden Elstorm Associates for Advance Floor Machine Co.)

Maintenance Conference

The next Plant Maintenance & Engineering Show will be held at the Public Auditorium, Cleveland, January 26–29. It will mark the tenth time the show has been held in as many years.

During the course of the first nine years, 144,000 visitors attended the show, there have been more than 2,500 company exhibits, and nearly 20,000 engineers have attended the Plant Maintenance & Engineering Conference which is always conducted concurrently with the show. Clapp & Poliak Inc. (New York) produce both events.

Exhibits are devoted to the demonstration of equipment and products designed to keep plants and machinery in operation. The past decade has seen an enormous increase in the use of automatic, high-speed production machinery and the problems of maintenance have increased in proportion.

Almost 400 companies will have exhibits at the 1959 show. Advance registration cards for show or conference may be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

First Quarter Injuries At Record Low

The all-manufacturing injury-frequency rate again registered spectacular improvement in the first quarter of 1958. The average of 9.9 disabling injuries per million employees-hours worked during the quarter was the lowest for any first quarter on record, according to preliminary reports compiled by the U. S. Department of Labor's Bureau of Labor Statistics. At this level injuries were occurring 12 percent less frequently than in the corresponding period of 1957 and 17 percent less often than in the first quarter of 1956.

Following the usual seasonal pattern, the all-manufacturing injury-frequency rate moved upward in both January and February, and turned down in March. The January and February rises, however, were less pronounced than usual and the March drop was steeper than usual. As a result, the rate for each of the three months represented an all-time low for that period of the year. Normally the average rate for the first quarter of any year is slightly higher than that of the final quarter of the preceding year. The first quarter 1958 average, however, was identical with that of the 1957 fourth quarter.

This improvement in the all-manufacturing injury-frequency rate continues the rather sharp downward trend in injury occurrence which began in the third quarter of 1956. Between July 1956 and March 1958, the rate has dropped from 13.2 to 9.6, or 27 percent. If the usual seasonal pattern prevails through 1958, the rate of injury occurrence may be expected to rise somewhat during the summer months, but should drop in the fall, resulting in an annual average about equal to the first quarter.

The improvement registered by the over-all rate was not concentrated in any particular segment of manufacturing. Significant improvement in relation to the first quarter of the preceding year was apparent in the rates of 75 of the individual industry classifications. For 43 industries there was no significant change over the year, and in only 19 was the comparison unfavorable.

Decreases of 5 frequency-rate points or more over the year were recorded by the following industries: steel foundries; screens, shades, and blinds; miscellaneous wood products; miscellaneous textile goods; logging; concrete, gypsum, and mineral wool; miscellaneous paper and allied products; cold-finished steel; elevators, escalators and conveyors; fabricated pipe and fittings; miscellaneous food products; construction and mining machinery.

For the first quarter of 1958, 22 industries reported less than 5.0 disabling injuries per million man-hours. The lowest rates were recorded for: tires and inner tubes—1.9; radio tubes—2.1; aircraft—2.5; explosives—2.6; scientific instruments—2.6; synthetic rubber—2.8; electric lamps (bulbs)—2.8; miscellaneous communication equipment—2.8; synthetic fibers—2.9.

Many Lives Saved on Seaway Job

One of the most successful industrial safety stories of modern times was written into the records when the St. Lawrence Seaway was dedicated at Massena this summer.

Careful attention to numerous safety precautions by both labor and management resulted in only three fatalities among some 4,000 workers and an accident frequency rate less than half the average for the heavy construction industry on a project that formerly would have cost the lives of more than one hundred workmen, reports F. W. Braun, vice president in charge of accident prevention for Employers Mutuals of Wausau insurors of 90 percent of the U. S. construction work on the project.

Braun pointed out that construction firms could expect an average loss of one life for every million dollars worth of construction on projects of this type and size some years ago. Final estimates on cost of Seaway construction on the American project exceed $100 million.

Braun compared the Seaway record to other outstanding construction jobs of modern times. The Panama Canal, Hoover and Grand Coulee Dams, Colorado River Aqueduct, Oakland Bay Bridge and the Empire State Building resulted in a total of 1,544 fatalities, not including thousands of lives lost as the result of yellow fever on the Panama Canal. He credited an enlightened attitude of management of the sponsoring contractors, Perini Corporation, Morrison-Knudsen Company, Peter Kiewit Company, as well as complete cooperation of labor in achieving the record. The insurance company accident prevention specialists also worked on the planning and follow-through of proper safety practices.

Braun reported the safety records established on the Dwight D. Eisenhower Lock, the Bertrand H. Snell Lock and the Long Sault Canal saved "hundreds of thousands" of dollars of taxpayer money in wages, workmen's compensation and elimination of lost-time factors. Safety records on the two locks brought the National Safety Council's Award of Honor and the Employers Mutuals of Wausau's top award for accident prevention to both Perini Corporation and Morrison-Knudsen Company.

Some of the factors that contributed to the success of the safety program were:

1. Pre-planning of safety measures several months before actual work was begun.

2. Cooperation of unions. On the Snell Lock project, for instance, union stewards formed a "watchdog" committee to make sure workers observed safety rules. They were empowered to reprimand those who neglected rules or to make recommendations for more drastic action. Meetings were held once a week with management and insurance representatives.

3. Safety indoctrination for new workers.

4. Safety messages attached to everything from paychecks to billboards.

5. Mandatory use of hard hats and other safety equipment.

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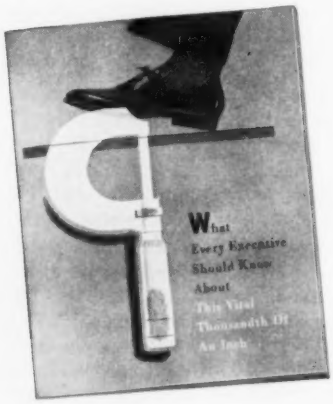

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Achievements and Awards

The Folding Paper Box Association of America has presented its Directors' Safety Award to the Sutherland Paper Company of Kalamazoo, Michigan. The award is based on a member company's achievement of a million consecutive man hours of work without a disabling or work-loss injury. This presentation to Sutherland marks the third consecutive million injury-free man hours logged by the carton manufacturer.

In making the award to William Race, Sutherland president, Gustav L. Nordstrom, executive director of the Folding Paper Box Association, remarked, "We are proud to commemorate your outstanding achievement in this way. Today's presentation represents the first time in the seven-year history of the Directors' Safety Award that it has served to recognize three million consecutive injury-free man hours—an outstanding record in the folding carton industry."

While other safety awards are presented annually by the Folding Paper Box Association, the Directors' Safety Award is given as often throughout the year as it is earned. Small carton companies, which are not staffed to produce millions of man hours of work as rapidly as the large manufacturers, may earn the Directors' Safety Award for five consecutive years of safe operation, regardless of number of man hours worked, according to Dr. Karl F. Simpson, spokesman for the Industrial Relations Committee.

Over-all results of the Association's safety program, started in 1951, have been quite dramatic, Simpson added. "As a result of the program, the frequency of injuries reported by the participants has been reduced from 11.34 per million man hours of work in 1952 to 7.18 per million man hours of work during 1957. This represents a reduction of 37 percent and reflects a nine percent reduction during 1957 alone, when the 174 participants earned a total of 80 individual safety award certificates.

"This decisive reduction in accident rate indicates a dramatic savings in dollars and human lives. We think—the Association's safety activity illustrates clearly the kind of safety results attainable by industrial firms cooperating in an organized group program."

• • •

Kellogg Switchboard and Supply Company, division of International Telephone & Telegraph Corporation, gained a singular distinction when the firm surpassed the mark of 3 million man-hours worked without a disabling injury. The first honor roll certificate ever awarded for this milestone by Michigan Mutual Liability Insurance Company was presented to George T. Scharffenberger, Kellogg president.

In making the presentation, Charles H. Jones, district supervisor of the liability company, said, "Such an outstanding record could only have been achieved by diligent application and strict adherence to a realistic safety program."

Scharffenberger directed the praise to his safety leaders: E. F. Rousch, industrial relations director; T. J. Minogue, labor relations, security and safety manager; and John Plowman, plant security and safety supervisor.

Since the company's new safety program went into effect last January, the company has received two other safety awards.

The National Safety Council pre-

sented the Award of Merit several months ago when Kellogg passed the mark of 1 million hours without a disabling injury, and followed up recently with the Award of Honor as the 3 millionth hour was reached.

The real makers of these records, the employees, were not forgotten. The Kellogg management and safety committee recently treated 3,000 workers to "Green Cross for Safety" cake and coffee to celebrate their safety record.

• • •

One of industry's outstanding safety awards, the Arthur Williams Medal, was presented to Dr. William P. Yant of Pittsburgh on September 17. Dr. Yant, who is director of research and development for Mine Safety Appliances Company, received the award at the annual award dinner of the American Museum of Safety, held in the Roosevelt Hotel, New York.

The award, given in honor of the late Arthur Williams, who served as president of the Safety Museum for many years, is for "outstanding contribution to the conservation of human life." Dr. Yant will be the 18th recipient of the award.

Dr. Yant's entire professional career has been devoted to the improvement of health and safety. His research and product development activity has been focused especially on those work-a-day activities of industry where vapors, dusts and gases are recognized as occupational hazards. His contributions to industrial and public safety include inventions covered by 38 U. S. patents and 28 foreign patents. These inventions include gas masks, air purifying canisters, breathing apparatus, flow regulating valves, helmets, respirators and many other items, instruments and methods.

He has published more than 150 articles of special importance to the field of chemistry and engineering as applied to the problems of health and safety.

Dr. Yant is known unofficially as the "roving ambassador of safety," because he is in great demand as a speaker at safety meetings, as a member of various committees, and as an officer of numerous organizations which contribute to safety.

He has been a member of the

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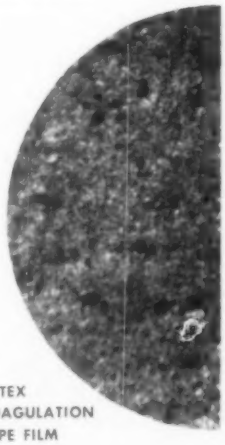

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board of directors of the National Safety Council since 1947, and was vice president for industry in 1953. He was the first president of the American Industrial Hygiene Association.

Dr. Yant served the government during both World Wars. In the first, he was with the Chemical Warfare Service. During World War II, he served the National Research Council in advisory capacities, and the Office of Scientific Research and Development sent him to England on a special mission concerning Industrial Health, Hygiene and Safety.

• • •

Employees throughout Trane Co. plants recently received gifts ranging from an auto compass to a health scale. The gifts were actually safety awards—180 in total for individual employee achievement during a three-month long contest designed to make Trane an ever safer place in which to work. Medical cases during the 1958 campaign were reduced to 26 from 38 recorded for the previous year's contest of the same duration.

• • •

Pittsburgh Plate Glass Company employees had proportionately fewer-on-the-job accidents during the 1957 calendar year to record the safest year in the company's history according to Clyde C. Ruddick, manager of safety, health and plant protection.

He revealed employees had compiled a disabling accident frequency rate of 4.4 per million manhours exposure and a severity rating of 369, to eclipse former records achieved during the 38 years Pittsburgh Plate has maintained safety statistics. The rates were computed on the 51,614,828 man-hours worked by the 50 nationwide industrial units of Pittsburgh Plate, Columbia-Southern Chemical Corporation, a wholly-owned subsidiary, and Pittsburgh Corning Corporation.

The Pittsburgh Plate official said the following 13 organizations completed last year without a disabling injury to receive the company's highest safety citation, the "Certificate of Honor":

Glass Division: Creighton (Glass Research); Ford City (Works No. 6 and Gas Department); and Port Allegheny (Pittsburgh Corning), Pennsylvania.

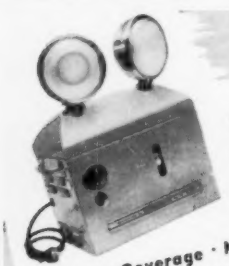
Paint and Brush Division: Atlanta, Georgia; Torrance, California; Cleveland and Dayton, Ohio; Houston, Texas; Milwaukee, Wisconsin; Portland, Oregon; Springdale, Pennsylvania (Paint Research); and Baltimore, Maryland (Brush).

Mr. Ruddick also reported the National Safety Council has presented its coveted "Award of Honor" to Pittsburgh Plate's Creighton (Works No. 1) plate glass employees for accident rates significantly lower than the flat glass industry's.

Pittsburgh Plate units receiving the Council's "Award of Merit" include Ford City (Works No. 6), Creighton (Glass Research), Baltimore (Brush Division), Milwaukee (Paint Division) and Barberton, Ohio (chemical plant and limestone mine). For achieving accident-free records the company's paint division located at Atlanta, Portland, Cleveland, Houston, Torrance and the paint research laboratory at Springdale were awarded the Council's "Certificate of Commendation" while the "President's Letter" was presented to the Dayton paint unit.

• • •

Another Certificate of Merit for having achieved accident-free operation of its plant was recently awarded to the Forbes Lithograph Mfg. Company of Chelsea, Mass., by the Liberty Mutual Insurance Company. The period covered ran from August 27, 1957 to March 23, 1958, a total of 711,713 man hours. A prior Certificate of Merit was awarded in 1955 for the previous record of 609,375 accident-free man hours. The Forbes safety program is under the direction of W. Stuart Forbes, Jr., Vice President and Safety Coordinator.



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Edited by HENRY M. GROSMAN
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PROLONGED EXPOSURE TO DIESEL OIL
—Cellulitis—Causal Connection.

A diesel shop laborer was awarded damages under the Federal Employers' Liability Act where after prolonged exposure to diesel oil, he suffered an infection in his feet which eventually resulted in the amputation of both legs. The employee was diabetic and the employer contended that the proximate cause of the amputation of the employee's legs was diabetic gangrene, and not any infection of external origin through an oil-contact caused skin infection. The physician who examined the employee when he was first admitted to a hospital testified that the infection was not diabetic gangrene and that his diagnosis was "cellulitis of the feet with necrosis in a diabetic patient." Cellulitis is a more diffuse infection of the skin and deeper tissues than dermatitis. When the employee first started to work he asked his foreman for rubber boots, but was told that they were not necessary. A witness for the company stated that the use of a special type of rubber boots by a worker around oil or diesel fuel was a way of preventing contact of the oil on the skin. There was testimony that there was a causal relation between the exposure to the diesel oil fuels and the resulting amputation. The evidence taken as a whole justified the conclusion that the company's negligence played a part in producing the injury for which damages were sought. Affirmed.

Brown Shoe Co. v. Fooks, Arkansas Supreme Court; No. 5,1513. March 3, 1958.

HERNIA—Failure to Give Employer Notice Within 48 Hours.

An employee was properly denied compensation for a disability occasioned by a hernia where he failed to notify the employer of the hernia within 48 hours after its occurrence as required by the statute. The employee contended that he did not know within 48 hours that he had suffered a hernia. The court ruled that whether he knew that he had a hernia or not, he was put on notice that something was wrong when he had the pain in the groin and especially when the lump appeared. Whether he knew or did not know there was a hernia was immaterial. The statute uses the word "occurrence" rather than "knowledge." During the 48 hours following the occurrence of the hernia the employer's supervisory employees were given no information which would have made them even suspicious that the employee might have sustained an injury of any kind at work, much less a hernia. Affirmed.

Buzza v. General Motors Corp.; New Jersey Superior Court, Appellate Div. No. A-520-56. March 21, 1958.

SILICOSIS—Mines and Miners—Negligence.

In a negligence action by an employee against his employer for failing to furnish him safe working facilities as a result of which he contracted silicosis, the court up-

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held a $7,000 judgment for the employee. The court found that the evidence was sufficient to sustain the jury's findings that the employee was suffering from silicosis which had been contracted while employed by this employer and that the employer had failed to properly ventilate the mine where the employee worked as a coal cutter. This was sufficient to sustain the jury's finding of negligence on the part of the employer. Affirmed.

Engle Coal Co., Inc. v. Drake; Kentucky Court of Appeals. March 21, 1958.

WAR-RISK HAZARD BENEFITS MADE PERMANENT

On August 8, 1958, President Eisenhauer signed a bill which makes permanent, provisions of existing law relating to workmen's compensation and war-risk hazard benefits for federal employees and employees of contractors of the federal government working in overseas areas. For many years Congress has extended legislation of this kind from year to year, the current extension expiring on June 30, 1958.

As to employees of contractors of the United States, this legislation provides a standardized scale of benefits for industrial type accidents in overseas areas. It also provides an orderly economical procedure for awarding these benefits. In providing war-risk hazard benefits for employees of the United States and employees of contractors of the United States, the law recognizes a national responsibility for those overseas employees who suffer injuries or are imprisoned in a war as a consequence of their employment in those overseas installations.

THIRD PARTY ACTION—Negligence—Electric Shock

In an action under the Federal Tort Claims Act by the employee of a painting contractor, the court ruled that the government's negligence in maintaining uninsulated electric wires was the proximate cause of the employee's injury. While moving a ladder, the employee, a painter, sustained a severe electric shock from an uninsulated wire. He received workmen's compensation under the state statute. The government contended that there was no showing that the negligence of the government was the proximate cause of the employee's injury; and that the employee was contributorily negligent and assumed the risk of injury. The court ruled against the government on each contention and allowed the employee $7,500 for the pain, suffering, injuries and disability sustained by him from the accident.

McCormick v. United States America, United States District Court, District of Minnesota, Third Div., No. 2915, March 19, 1958.

FEDERAL EMPLOYERS' LIABILITY ACT—Fall on Icy Walk—Claimant in Supervisory Capacity

A railroad company yardmaster who fell on an icy walk in the course of his employment and sustained a back injury was awarded a judgment for $17,500 under the Employers' Liability Act where the company was found to be negligent in failing to provide the employee with a safe place to work. The railroad company contended that claimant, as yardmaster, was in a supervisory capacity, that his duties included supervision of the maintenance of the area where he worked, that he should have been aware of the icy condition of the path, and that the injuries were caused solely by his own negligence. Although claimant, who worked on the night shift, had some responsibility to keep the yard reasonably free of ice and snow so that the employees would have a reasonably safe place to work, it was really the track supervisor and the section foreman under him who were charged with the primary, direct, immediate duty of removing ice and snow and who actually did it. The employee suffered a herniated intervertebral disc, was required to continually wear a brace and suffered a continuous pain in his back. The verdict of the jury was declared not to be excessive. Affirmed.

Amerpohl vs. Illinois Central Railroad Co.; Illinois Appellate Court, Second District, Second Division, No. 11119. May 8, 1958.

SAFE PLACE TO WORK—Arm Injury—Assignment of Errors

An injured employee was properly awarded damages for personal injuries suffered while working since the injury was the proximate result of the negligence of the employer. Employee brought this action against employer, his father, for injuries to his arm suffered while working with a mobile spray rig. The accident occurred when employee's jacket became entangled with a bolt projecting from the revolving drive shaft. This bolt should not have been allowed to project in this unprotected manner, and adequate protection would not have impaired the operation of the machine. The employer was found guilty of negligence and of violation of certain statutory duties in not providing a safe place to work. The employer charged that employee was guilty of contributory negligence and also assigned certain errors in the judgment of the case, but the court did not agree with any of these. Judgment affirmed.

Fields v. Fields, Oregon Supreme Court. No. 6027. June 4, 1958.

ACCIDENTAL INJURY—Causal Connection Between Employment and Injury

A production line service girl employed by a dress manufacturer was improperly denied compensation for a back injury where it was shown that the back injury was the result of an accidental injury arising out of her employment. The claimant's work consisted of lifting bundles of dresses weighing from 40 to 60 pounds each to a height of about 6 feet. The court ruled that an accidental injury arises out of the employment when the required exertion producing the injury is too great for the person undertaking the work, whatever the degree of exertion is, either the (or a contributing) cause of the injury. The court concluded that an injury is accidental when either the cause or result is unexpected or accidental, although the work being done is usual or ordinary. Reversed.

Clark v. Ottenheimer Bros., Arkansas Supreme Court. No. 5-1623. July 1, 1958.

On and Off Job Safety Pays

Du Pont employees are three times less likely to get hurt away from work and four times less likely to be killed in auto accidents than the average person in the United States.

This came to light when the company's safety statisticians were poring over their accident records for the first six months of 1958. Since Du Pont's 90,000 employees form a cross section of the public—and no safer naturally than any other group—it was believed that these records are no accident, but reflect the payoff of the Du Pont safety program. The employees are so safety-conscious on the job that a lot of it sticks with them when they go home.

For years, as one part of this job, each injury to an employee has been analyzed; then the cause is attacked so it won't happen to anyone else. This effort is what disclosed the remarkable difference between Du Pont employees and the public as a whole.

Away from work, company employees have been having time-losing injuries at the rate of 1,720 per 100,000. That is about one-third the rate of 4,492 for the population as a whole, according to latest figures of the National Safety Council. The ratio of fatalities off the job is about the same, the rate being 16 per 100,000 for Du Pont people and 47 for the U. S. average.

There is no comparison for fatalities at home because Du Pont employees did not have any in the first six months. Had they been at the national average, six would have been killed. Auto accidents off the job caused a death rate of five per 100,000 among employees. This is about one-fourth as much as the national average of 21.

Over the years, people have been safer at work in American industry than they have been at home. Despite this circumstance, the contrast between Du Ponters at work and employees in "all industry" is far more striking than that between Du Pont people off the job and the population as a whole.

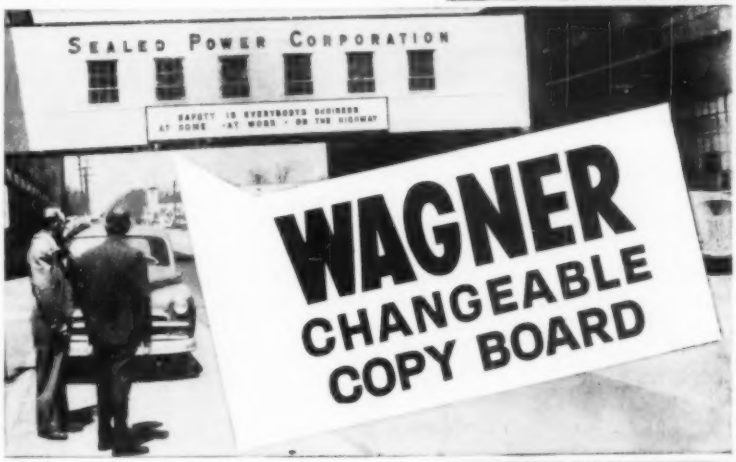
An employee of the company is only $\frac{1}{48}$ as likely to be injured on the job as the average U. S. worker and only $\frac{1}{11}$ as likely to have a fatal accident. The injury rate for Du Pont is 66 per 100,000 while the industrial average is 3,181; the fatality rate for Du Pont is two as compared with 23.

After observing that employees were about 15 times safer at work than away, the company inaugurated an off-the-job safety program in 1953. Now it is paying off: the rate of injuries away from work has declined over 25 percent. Results have showed up particularly in the form of fewer auto accidents and falls at home.

There is still a big gap between job and home. Employees have cut their off-the-job injury rate to 4.60 per million hours of exposure, but they have cut it at work to 0.34. A purely statistical conclusion based on the latter rate could be that the average Du Pont employee would have to live about 1500 years before he got hurt on the job.

This new rate is a whisker short of Du Pont's previous best of 0.33 but it does give the company a chance to squeeze out a new record in the rest of the year.

All It Takes To Make Your Safety Program Effective is a . . .



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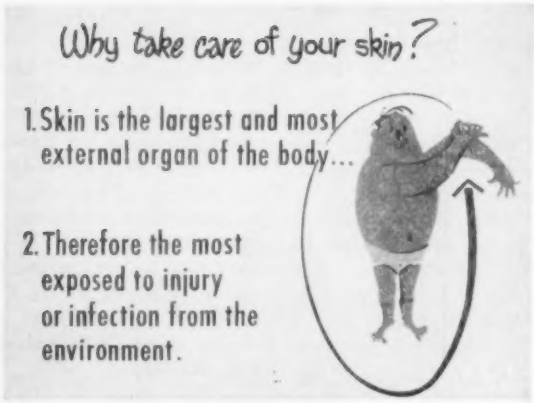
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New Flipchart on Dermatitis

A new flipchart entitled "How We Can Clean Up Dermatitis," prepared by the Industrial Division of the Association of American Soap & Glycerine Producers, Inc., grew out of a survey the Association conducted recently to develop latest statistics on the dermatitis situation in industry today.

Detailed questionnaires were circulated to 141 plants in major manufacturing industries, comprising a total of 429,000 employees. Among the startling facts revealed: 26 percent of these employees are exposed to potential skin irritants daily; of these, at least 9 percent actually contract some form of skin trouble resulting in lost man-hours; and for fifty-nine companies able to supply exact information on such time lost, the total was 18,219 man-hours in 1955.

Asked about the best method of combatting the industrial dermatitis hazard, the overwhelming majority of companies replied: **proper cleanliness practices.** Figures indicated that three-quarters of the sample rated cleanliness education programs a virtual necessity, while only a third already provided such programs. And in small industry the problem loomed even larger. In plants employing 500 and under, a greater percentage (36 percent as opposed to the 26 percent average figure) actually face exposure to skin irritants. Yet of these plants, 84 percent did not provide any employee education programs on cleanliness.

The current flipchart was designed to help fill the gap between the need for such employee education and its lack in all too many instances. With the help of this visual aid tool, the group foreman, group leader, safety engineer, industrial hygienist, plant nurse or doctor, can impress directly and repeatedly on small groups of employees the reasons for skin care and the price of neglect. Its portability and simplicity make it easy to set up and operate, especially in small plants, where the need is greatest and the facilities are often poorest. The flipchart presents a series of facts about dermatitis, and is notable for the "light touch" in both its text and drawings. Page 1 of the chart is reproduced in the accompanying illustration.

The colorful cartoon characters and brief copy headlines are intended to attract employee attention

(Continued on page 41)

Air Pollution Progress

A radical change in the nation's attitude toward air pollution was documented on the fifth anniversary of "Smog News," a semi-monthly publication of The American Society of Mechanical Engineers. During the past five years emphasis has shifted from relatively simple problems such as smoke and fly ash to the much more complex problems usually associated with the word "smog." In addition, more cities have become concerned with air pollution, and control budgets have grown enormously. The review of developments in the field on air pollution was issued by Frederick S. Mallette, secretary of the Air Pollution Control Committee of ASME and editor of "Smog News."

Five years ago, only Los Angeles was worrying about "smog" which had come to mean a complex mixture of air pollutants rather than a mixture of smoke and fog, its original definition. Today, concern over air pollution is no longer limited to a few cities. There is hardly a town of any importance which does not have an active interest in air pollution.

Practically every state in the Union and Hawaii are represented by state health department activity. Mr. Mallette said, "Air pollution budgets today are important municipal expenses with Los Angeles County topping the list at almost $4 million per year. New York City spends approximately $670,000, the San Francisco Bay Area almost half a million dollars, and the California State Department of Health over $350,000. Expenditures by industry for control measures are also staggering with a recent report of $12 million for just one plant of a large steel company. Sums in the vicinity of $50,000 for incinerator or odor problems are found frequently."

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Beta Ray Safety Standard

"Radioactive isotopes are inherently no more dangerous than high-voltage electricity, corrosive acids, rotating machinery, or any other potential hazards commonly found in industry," says Dr. Robert S. Rochlin, General Electric Company, and a member of the national standards committee which developed the American Standard Safe Design and Use of Industrial Beta Ray Sources, Z54.2–1958. The National Bureau of Standards is administrative sponsor of the project organized and operating under the procedures of the American Standards Association.

Industrial beta ray sources are used at present by about 350 American companies for such applications as gaging density and thickness of paper, cellophane, films, coated materials, etc; electrostatic charge elimination; self-luminous light sources; and for various quality and cost controls in production.

Discussing the new standard in the July issue of "The Magazine of Standards," published by the American Standards Association, Dr. Rochlin states:

"Because the precautions (necessary in use of radioactive isotopes) are as yet unfamiliar to most people, an educational program is needed for each new user. It is hoped that the new beta ray source standard will help to fill this educational need."

The increasing importance of radioactive isotopes in industry is stressed by an estimate of the Atomic Energy Commission that American industry is now saving $400 million a year through the use of radioactive isotopes. Within the next five years, the annual saving is expected to rise to $5 billion.

Dr. Rochlin, in his article, states further:

"The new standard can promote safer use of these sources in several ways:

(1) It can help you teach your personnel how to handle beta ray sources.

(2) It can help you set up an adequate program for continuous protection of personnel, in accordance with Federal, state, and municipal regulations.

(3) By outlining the factors involved in safer design and construction of beta ray sources, it can probably help you prepare improved purchasing specifications for new sources.

(4) It tells you what to do in case of accidents or other emergencies in which radioactive sources are involved.

"Prepared by a subcommittee of the American Standards Association's Z54 sectional committee, this safety standard contains a discussion of radiation exposure, beta ray measurement, the selection of preferred radioactive materials for beta ray sources, principles of source design, prototype testing, instruction manuals, leakage tests, warning labels, and manufacture, shipment, installation, storage, and disposal of sources. In addition, there is a section on safe working conditions in plants in which radioactive materials are used, and a section on how to deal with accidents involving radiation hazards.

"One appendix tells how to obtain copies of the many Federal, state, and local regulations covering radiation safety and shipment of radioactive material. Another appendix summarizes the recently revised radiation exposure limits recommended by the National Committee on Radiation Protection and Measurements.

"For sealed beta ray sources in normal use, protection is required against the beta radiation which may be emitted from an unshielded source and which may strike a person nearby. If the sealed container should develop a leak, however, and the radioactive material should leak out of the source, it would give rise to a second type of hazard, in which the radioactive material itself might be inhaled or ingested. In many cases the second type of potential hazard is much more serious and is harder to detect and control. The standard therefore goes into considerable detail regarding the design of sealed sources which are likely to stay leaktight over long periods of time. Attention is given to the effects of corrosion, mechanical damage, fire, and even damage due to the source's own radiation. Recommendations for periodic leakage tests are also included."

Published as "Handbook H66" by the National Bureau of Standards, the new American Standard Safe

Design and Use of Industrial Beta Ray Sources, Z54.2–1958, is available at 20 cents per copy from American Standards Association, PR 10, 70 East 45th Street, New York 17, N. Y.

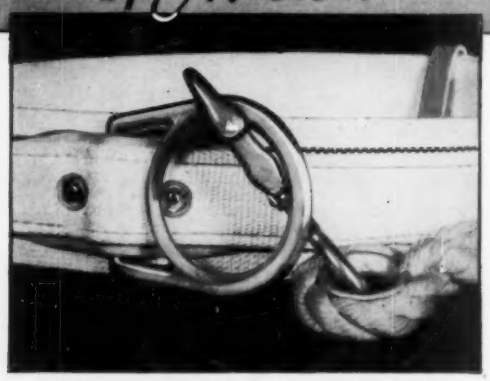
Adapted to Many Uses

Man-made whirlwinds, which help industry keep production shops clean and workers healthy, are now performing such demanding jobs as salvaging diamond dust and precious metals and eliminating toxic substances, Torit Manufacturing Company reports.

The carefully-harnessed cyclones are created inside high-efficiency centrifugal separators which suck up dust from grinding wheels, machine tools and woodworking machinery. These new high-efficiency separators have recently been assigned such diverse duties as salvaging valuable diamond dust from industrial grinding wheels, recovering brass for a precision metalworking firm and collecting elusive and poisonous mercury in an electronic plant.

In operation, carefully placed vanes in the cone-shaped dust separators spin the dust-laden air into a whirlwind which removes dust by centrifugal action, dropping the debris down the cyclone's vortex to a collecting hopper. The air, nearly 100 percent dust-free, is exhausted from the top.

New DEEsign for INDUSTRIAL BELTS by Miller!



The new MILLER Circle Industrial DEE (MCID), together with the MILLER overlapping snap, now eliminates all snap "roll-out" hazards and makes it possible to snap direct to the Dee. There is no need to loop the rope or splice the lanyard to the Dee—ask for complete details.

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Radioactive Waste Disposal

A group of scientists and technicians recently attending the Second UN International Conference on the Peaceful Uses of Atomic Energy agreed that they could "see daylight" at the end of the "waste disposal alley" and that there was no danger that the nuclear industry would have to halt its development because of a lack of safe disposal facilities.

The disposal of high level radioactive wastes by solidifying methods would present great advantages and such methods were now being evolved, it was pointed out. Following the formal session, the Chairman, Dr. A. Goldberg (Israel) likened this method to that of burying mummies in tombs, and pointed out that the cost was probably as high.

Interest centered on a Canadian paper presented by Dr. L. C. Watson in which the use of glass was recommended as the most suitable solid with which fission products could be merged and stored. Glass offered many desirable requirements. It would be resistant to removal of fission products by water. It offered a simple and cheap process of conversion from liquid to solid; easy and economical storage with minimum future control; and resistance to radiation or chemical damage.

The cost of producing glass containing fission products, according to the Canadian method, would add an estimated 0.01 mills per KW to the cost of power and a similar amount for permanent storage cost. The use of this system would need only some 5 to 50 acres of disposal ground per year at a level of 1,000 MW power generation.

Other Methods of Disposal

Papers from the United States and Belgium also described methods of disposing of high level radioactive materials in solid forms. It was pointed out that although tanks so far had proved safe—65 million gallons of liquid wastes are stored in the United States alone today—they demanded a high degree of control and their resistance to time was not yet known. The tankage system, it was agreed, should be regarded as a stop-gap method and safety would increase if these liquid wastes could be converted into storable solids.

Apart from the Canadian glass method, experiments had been made with concentration and cooling leading to solidification, adding Portland cement, using clays and clay flux mixes, browncoal or lignite, salt calcination and the so-called "fluid-bed calcination," described in a paper presented by Dr. C. E. Stevenson (United States). This latter method had been tested successfully and the complete process was now being developed at the National Reactor Testing School in Idaho.

The dumping of radioactive wastes in the deep seas was described by Dr. J. A. Lieberman (United States) as an "awful final act." He urged much more research in this field including, in oceanography, the constant control of waste dumps and a "safety first" attitude.

United States scientists had been unable to detect any radioactivity relatable to the sinking of 10,000 curies in specific places in the period 1946–57.

Utilizing a full complement of safety equipment, including hard hat, cap lamp and breathing apparatus, the captain of mine rescue team checks oxygen content of underground atmosphere with flame safety lamp as aides await result.

rescue teams at the ready

Many industries would benefit from organized rescue teams. Take a tip from the mining industry where thoroughly trained and equipped rescue squads are vital.

Don't give disaster a chance to happen," is the safety theme at the Sullivan Mine of the Consolidated Mining and Smelting Company of Canada Limited.

At the Sullivan—as in most of today's mines—the word "disaster" is used primarily in connection with the company's safety training program as a reminder of what can conceivably happen when an accident gets out of hand.

Members of a mine rescue team learn details of the self-contained breathing apparatus at safety training session.

Preventive engineering in modern mining operations either eliminates or guards against the development of a full-scale disaster. Protective apparel and safety equipment developed by mine technicians, safety engineers and safety equipment manufacturers play a vital role in reducing the disaster incidence in the mining industry.

Mining safety has long since progressed to the point where there is considerably more danger to individual workers and property in the above ground plants of dozens of other industries.

There is still plenty of drama in mining. But, for some reason, organized heroism that prevents disaster never quite rates the headlines.

If an accident does occur at the Sullivan Mine, despite all safety engineering precautions, mine rescue teams are ready to "take over." They are prepared—by many hours of practice—to meet the emergency situation with speed, precision and efficiency.

Using their safety instruments with the knowledgeable foresight born of intensive training, the Sullivan mine rescue teams move to an accident scene immediately to repair damage and remove any injured workers from the danger area.

Prompt action with the proper safety equipment helps keep minor accidents from becoming serious—and could prevent serious accidents from evolving to disaster proportions.

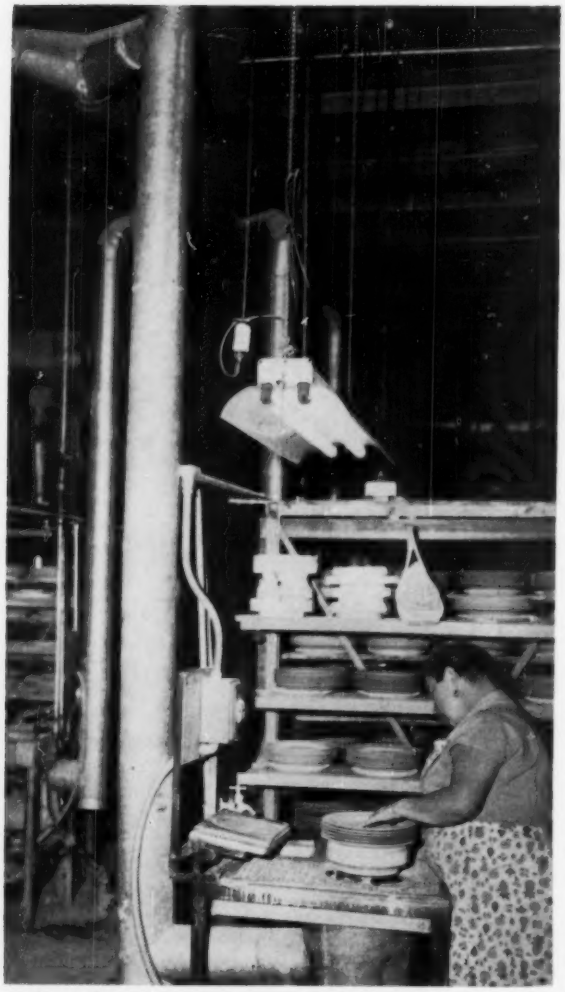
Mine rescue training sessions at Cominco's Sullivan Mine leave little to the imagination. Complete indoc-

(Continued on page 40)

OPERATION: DUST CONTROL

The danger of silicosis is still with us; but the problem of making the hazard harmless has been solved by modern methods of dust control.

VENTILATION SERIES
other articles in Oct. and Dec.



In the picture above are shown the dust collectors which protect employees at the finishing whirlers in clay shop.

by **W. B. LAUGHLIN**
Safety & Compensation Manager
The Hall China Company

Modern methods of dust control applied to plant safety programs have reduced the hazard of silicosis in the pottery industry to the point where it is practically non-existent.

Years ago silicosis was a grave problem and considered an occupational risk. The pottery industry determined to rid itself of this menace and in 1944 the United States Potters Association appointed a committee to investigate ways of dealing with silicosis.

The first thing the committee did was to arrange for the Industrial Hygiene Foundation of America to make a complete appraisal of plant conditions in the industry. The results of the Foundation's studies and the recommendations of the Association's committee served as a guide to eliminate the conditions that produced silicosis.

Control Equipment Installed

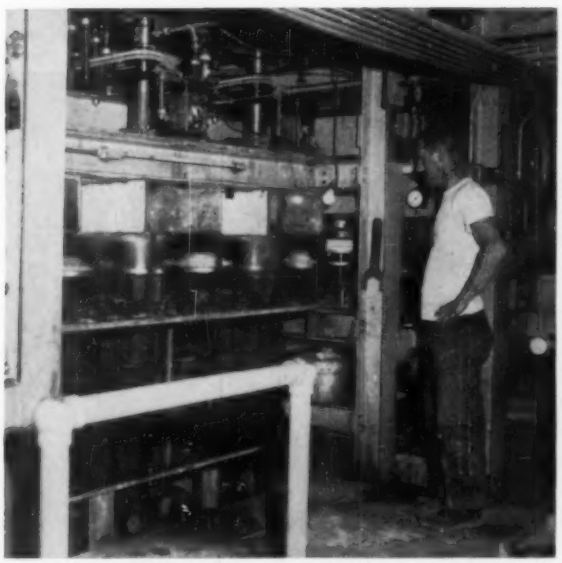
The result was the building and installation of dust collectors, exhaust fans, and devices for moistening flint and other raw materials. Today raw materials are purchased with between three percent and five percent moisture added. In addition floor scrubbing materials were added to plant equipment, and industry thinking in regard to plant housekeeping was revised.

The Association committee and the Foundation have continued to work closely to develop better dust control practices. Periodic surveys show that dust concentration is being continually reduced.

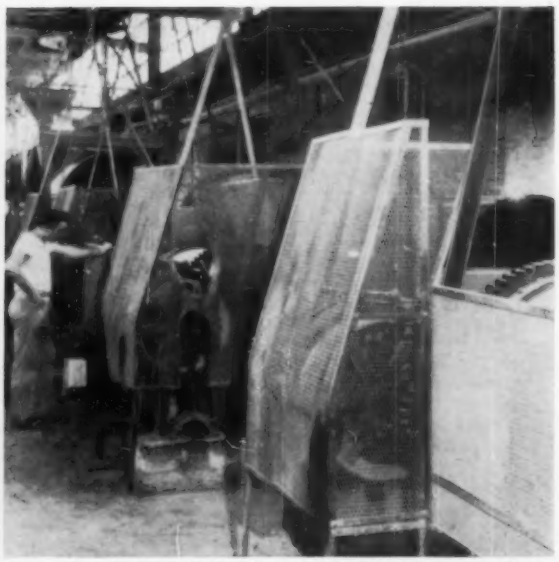
As for our own company's safety program, Hall China has a modern brick and reinforced concrete plant, the oldest section of which was built in 1930. There are 474,000 square feet of space under roof and a sprinkler system. The company employs about

(Continued on page 40)

An important safeguard in the clay shop coloring department are the exhaust fans in hoods which remove the dust.



As shown in above picture, automatic jiggers are enclosed by safety shields as part of the shop's protection program.



Protection is provided in the grinding department by these guards which are placed around each of the pebble mills.

11-8

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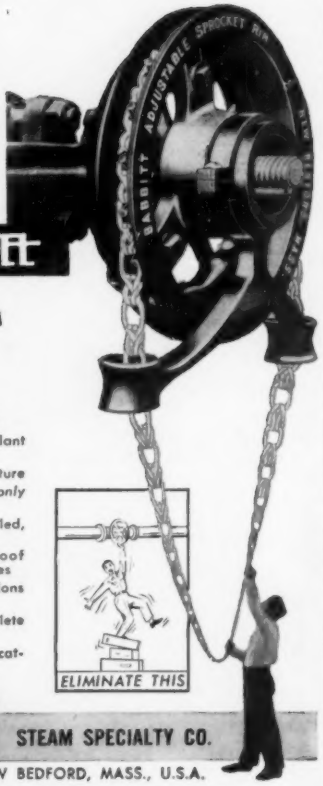

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"Respirators for Industry since 1894"
(For details, use Key # X-15 on card on page 1)

Operation: Dust Control

(from page 38)

700 workers on a one-shift operation, with the exception of the kilns which must be operated continuously.

We maintain a first aid department with a registered nurse and a full-time doctor who tends to the needs of five other potteries in our area. The plant is surveyed periodically by our own safety personnel and by the Division of Safety and Hygiene of the Industrial Commission of Ohio. Although our accident potential is less than that of heavy industry, any accident is thoroughly analyzed and an effort made to eliminate its cause.

We make sure that all new equipment for our production line is properly guarded and that its safety features are as modern as the machine itself.

Material by courtesy of The Hall China Co. through the Industrial Commission of Ohio's "Monitor."

Rescue Teams At the Ready

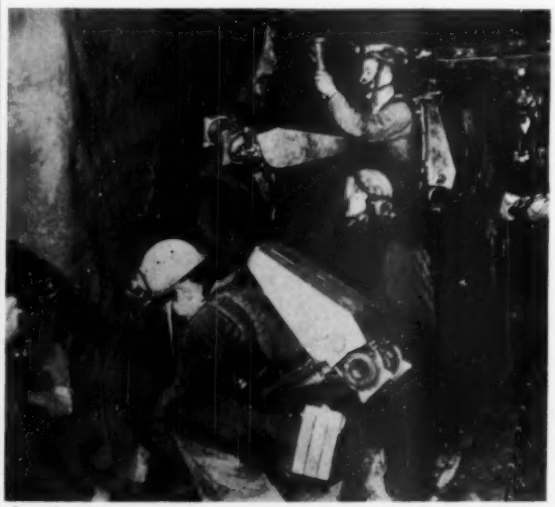
(from page 37)

trination is given in the method of dealing with a variety of emergencies which are possible: fires, cave-ins, explosive gases, flooding and explosions. Intensive training is provided regularly in the use of test instruments, gas masks, oxygen breathing apparatus and other essential safety equipment.

Keen competition among mine rescue teams promotes high degrees of alertness, teamwork, and efficiency. Training sessions are held in a mock mine which all but duplicates underground conditions during emergencies.

During training sessions—as in routine mining operations—the wearing of protective clothing like the one-piece plastic laminated safety hat, with an Edison cap lamp mounted at the front, is standard practice.

Confronted—as they are—with complex problems, rescue team members must be proficient in the use of all available safety equipment, and know-how to act



Rescue team practices rigging brattice cloths used in the circulation of fresh air in gas-contaminated mine areas.

Before moving into a simulated disaster area rescue team members set a jackpost to prevent weak ground giving way.

in ways which offer maximum protection to "victims" and themselves.

At full-dress competition, several teams tackle the same problem. Judges—usually inspectors from the Department of Mines—are strict in evaluating results. The Sullivan Mine has produced many mine rescue teams with good winning records. The Sullivan's Centre Section team—winner of the first "Province Wide" competition—is a pace-setter.

Backing up the general safety theme of Sullivan Mine operations is the mine rescue teams' own slogan: "If it happens, we'll be there and we'll be ready."

Fellow employees who've watched them in training know that—if need be—all hands of the mine rescue team will "practice what they preach."

Pictures by courtesy of Mine Safety Appliances Co.

New Flipchart on Dermatitis

(from page 34)

and hold interest, while the speaker elaborates and amplifies—using his own words—on the basic principles contained in a "Suggested Outline for a Talk," which is attached to the rear of the chart. This flexible approach, the Association believes, eliminates objections to the "formal lecture" method of handling safety education.

The flipchart, measuring 15" x 17½", with spiral binder, is being made available at cost—$10 per copy, complete with attached outline and self-contained shipping carton—by the Association on direct order to its offices at 295 Madison Avenue, New York 17, N. Y.

Eliminate expensive "slips" with

ALCOA ABRASIVE TREAD PLATE

An employee slips on greasy metal flooring, injures his back. Medical costs run up to $523.77. Workmen's Compensation is $1,313.30. Additional claims may be as much as $2,000 more. The employer's accident rate is up and production is down while another worker is trained.

This is just one of the 20,000 expensive slipping accidents which kill or injure industrial workers each year. Most of them can be prevented. Alcoa® Aluminum Abrasive Tread Plate remains slip-proof even when wet, oily or greasy. Made of tough particles of fused aluminum oxide, its hard, abrasive surface is the only non-skid floor plate that gives you the advantages of lightweight, corrosion-resistant aluminum.

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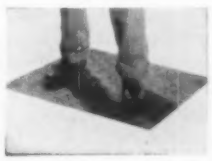

Sure-grip Alcoa Abrasive Tread Plate is the best insurance you can buy against slipping accidents.

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(For details, use Key # X-16 on card on page 1)

Governor Averell Harriman (N. Y.) on behalf of the National Society for the Prevention of Blindness presents a special membership certificate to John E. O'Banks lineman of the Central Hudson Gas and Electric Corporation, Poughkeepsie, N. Y., as the 15,000th member of the Wise Owl Club of America.

Shown left to right are Franklin M. Foote, M.D., executive director, James E. O'Neil, director of industrial service; Leonard Greenburg, M.D., chairman, industrial advisory committee, of the National Society; Governor Harriman, Mr. O'Banks, Ernest R. Acker, president, and George Ruoff, safety director, Central Hudson Gas and Electric Co., and Mason H. Bigelow, chairman of the board of the Society.

15,000th Wise Owl Inducted by N. Y. Governor

Governor Averell Harriman of New York inducted an employee of the Central Hudson Gas and Electric Corporation, Poughkeepsie, as the 15,000th member of the Wise Owl Club of America late in September.

In a simple ceremony at the Governor's New York City residence, lineman John O'Banks received a special membership certificate from Governor Harriman on behalf of the National Society for the Prevention of Blindness, sponsor of the Wise Owl Club.

The Wise Owl Club is an eye safety incentive program with more than 2,000 chapters in 48 states, Hawaii, Puerto Rico, Cuba and Canada. Its goal is to reduce needless loss of sight due to industrial, home and school accidents by promoting the use of safety eyewear, according to Mason H. Bigelow, Chairman of the Board of the Society.

The basic requirement for membership in this unique organization is that a person has saved the sight in at least one eye by wearing safety glasses, or some other type of eye protection equipment, during an on-the-job accident.

Mr. O'Banks qualified for membership when he fell 23 feet from a power line pole recently and landed face down in a patch of dangerously stiff weed stubble. According to George J. Ruoff, safety director, Central Hudson Gas and Electric Corp., the force of the fall was so great that a small crater was formed where his face struck the ground. That portion of Mr. O'Banks' face not protected by his safety glasses received severe abrasions and contusions.

Commenting on the accident, Mr. Ruoff said, "It is significant that the glasses which undoubtedly saved Mr. O'Banks' eyes from injury were worn solely for protection. They were not prescription glasses with safety lenses, nor were they tinted and being used as sun glasses." Mr. Ruoff pointed out that his company's eye conservation program has "paid dividends" in that 57 employees have saved their sight through the use of safety eyewear and claim membership as "Wise Owls."

According to James E. O'Neill, director of industrial service for the National Society for the Prevention of Blindness, approximately 300,000 eye injuries were sustained by industrial workers last year. It is estimated that 90 percent of them could have been prevented if proper eye-safety equipment had been worn.

Logging Accidents

More than 16,000 workers in the logging industry were disabled by work accidents during 1955, according to estimates based on a special survey conducted by the U. S. Department of Labor's Bureau of Labor Statistics. Of these, an estimated 225 were fatally injured and 850 were permanently disabled. The industry employed 103,000 workers in 1955.

About 395,000 man-days of work were lost during the immediate year of injury, with wage losses alone amounting to $4.2 million, only part of which was covered by workmen's compensation payments. Future time losses arising from these injuries will increase the total loss to approximately 2.5 million man-days and $26.6 million in wages. In addition, it is estimated that medical costs, property damage, and other nonwage costs will raise the total cost of work accidents in the logging industry for 1955 to more than $60 million.

The average work-injury frequency rate for all logging establishments participating in the special survey was 80.1 disabling injuries per million hours worked. Within the group, the average rate for those loggers producing saw logs was 82.5, while that for those producing pulpwood logs was 76.2. The average severity of injuries, measured in terms of the number of days of disability per million hours worked, was 15,596 for operations producing saw logs and 5,429 for pulpwood logging.

Regionally, the all-logging injury-frequency rates ranged from 70.2 for Southern operations to 88.5 for Western operations. For operators engaged in producing saw logs only, the Western rate was 91.3; that for the South, 71.4; and that for the North, 61.2. For pulpwood logging, the rates were 75.8 for Southern operations and 75.3 for Northern operations.

In the West, the injury-frequency rate for the Douglas fir region (95.0) was somewhat higher than the rates for the California redwood (86.4) and Western pine (82.4) regions. The severity rate for the Douglas fir region was likewise higher than that of the other Western regions. However, when injury severity was measured by the average number of days lost or charged per disabling injury, the rate for the Douglas fir region (197 days) equaled the average for all Western region operations and was slightly lower than the average for the Western pine region.

LIGHT BULB LIGHTS UP GASOLINE

A garage employee was draining the gasoline from a car into a pan in the garage oil pit. An extension light fell into the pit and shattered, igniting the gas. The fire destroyed two buildings and caused $100,000 damage. Preventive measures: draining the gas into safety cans; using approved, explosion-proof extension lights, including light bulb guards.

BACKING INTO TROUBLE

The driver of a large dump truck was backing up to dump a load of gravel. A laborer was working behind the truck but in a blind spot where the driver was unable to see him. The laborer was unaware of the vehicle and he was run over by the truck, with fatal injuries resulting. An automatic back-up alarm would have prevented this type of accident. Also a flagman could have been used to make sure the truck's path was clear.

HITCH HIKER

A mechanic had finished the repair of a fork lift truck. Wanting to go to another part of the plant, the mechanic asked the driver to give him a ride. The driver agreed and the mechanic stood on the two forks of the truck and held onto the top of the mast to steady himself. Enroute, the truck had to pass through a doorway with barely enough clearance for the mast. The mechanic's hand was crushed between the mast and the door and he lost four fingers.

LOWER THE LOAD

Having just removed some long-length stock from the top of a stack, the fork lift operator tried to back and also turn the truck without lowering the load. The top-heavy vehicle tipped over and the driver suffered broken ribs, a fractured pelvis, and internal injuries. A basic safety rule for lift truck operators is to lower loads to a point just above floor level as soon as materials have been removed from the top of the pile.

Learning The Hard Way

INNOCENT (?) MERRIMENT

Here's how horseplay set off a chain reaction of accidents. An employee in a woodworking shop was operating a rip saw when he was tickled by another employee. With the operator mometarily distracted from his work, the material being sawed struck his arm and broke it. He lost time from work, but during his convalescence he visited the shop and was looking over the shoulder of a co-worker who was running a jointer. A piece of wood from the jointer flew up and hit the kibitzer in the eye, causing loss of vision. A bit of horseplay started this chain of events, but it wasn't the only cause of the injuries. Woodworking machines should have safeguarding devices and both operators and visitors should wear safety goggles.

SHIRT TAIL ON THE LOOSE

Maintenance man tried to duck under a rotating horizontal shaft as a short cut to reaching another machine. His shirt tail caught in the shaft and by the time the machine was shut off, the employee had suffered fractures of the ribs and wrist. Three errors of judgment here: taking a chance to save time; poor supervision around moving machinery; loose clothing.

GUARD CIRCUMVENTED

A die cutter was hand-feeding a platen press. He reached over the safety guard to straighten a piece of cardboard that was entering the press. His hand was caught by the closing press. Result: fractures of the middle and ring fingers, lacerations of all fingers.

SAFETY SHOES NEEDED

A 7½-ton shear was being moved from a flat bed truck. 2½-inch rollers were under the shear which was being pulled by a power winch. A worker tried to straighten one of the rollers by kicking it, but the roller passed onto his foot before the winch could be stopped. The foot was crushed. Many errors contributed to this accident. The worker should not have tried to straighten the roller by kicking it. Pinch bars had been provided for this purpose. A sledge hammer would also have been effective and safer. Finally safety-toe shoes probably would have protected the foot from injury. Anyone involved in any type of handling of materials should have safety shoes.

TWO SIDES TO A CIRCULAR SAW

A cleanup man was sweeping sawdust from under the table of a circular saw. As he reached under the table, his hand came in contact with the lower part of the saw, resulting in a serious injury. The saw was guarded above the table for the protection of the operator, but was left unguarded below the table. The lower runs should also be enclosed.

Water Tanks for Fire Proection

New design criteria is one of the several changes in the new edition of the National Fire Protection Association Standard on Water Tanks for Private Fire Protection Service.

Changes from the previous edition cover lightning protection, cathodic protection, and water heaters. These and other changes were adopted by the Association at the annual meeting on recommendation of the NFPA Committee on Water Tanks, under the chairmanship of Robert H. Merz, Philadelphia, Penna.

The NFPA has more than 110 technical committees made up of experts who voluntarily serve to develop the many universally adopted NFPA standards. Representatives on these standard-making committees include manufacturers, insurance, fire departments, municipalities and other organizations in the fire field. NFPA standards are continually under study for possible changes to keep them up to date with current methods.

NFPA Standard No. 22 (120 pages, $1.00) may be obtained from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Pulverized Fuel Systems

The National Fire Protection Association has issued a revision of the NFPA standard for the installation and operation of pulverized fuel systems, on which the prevention of dust explosions in properties heated by such systems is based.

The revision affects primarily the design of ignition torches used to ignite the pulverized fuel system furnaces. These torches may be oil or gas-fired and separate rules apply to the different types. In addition, new requirements have been adopted on portable torches assuring greater safety in their use.

This NFPA standard was completely revised in 1956 when improvements in equipment design permitted recognizing that heating units would withstand internal explosion pressure of 50 psi, without depending on special venting facilities.

The revisions were prepared by the NFPA Committee on Dust Explosion Hazards and adopted at the Association's recent annual meeting. Copies of the standard (NFPA No. 60, 36 pages, 50 cents) may be obtained from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Jet Fuel Hazards

The safe use of "jet fuels" is a matter of increasing concern now that gas turbine and turbo-prop engines are rapidly replacing conventional reciprocating engines in both military and commercial air line planes.

The elimination of logistical problems that might otherwise result in a major or minor disaster in the handling, storage and use of kerosene and JP-4, the two principal jet fuels, is the subject of a bulletin just published by the Special Hazards Subcommittee of the Association of Casualty and Surety Companies.

The detailed bulletin, entitled "Fuel for Jet Aircraft," contains a general introduction and is subdivided into sections on fire hazards, health hazards, storage and shipping, ground handling of jet fuels and cleaning and repair of jet aircraft fuel cells. It also lists 23 additional sources of technical information on safety procedures and requirements affecting the use of jet fuel.

James F. Van Namee, director of the Engineering and Research Division of the Association's Accident Prevention Department, said that the report is the latest in a series of Special Hazards Bulletins published by the Special Hazards Subcommittee, which regularly investigates and reports on processes, materials and techniques that constitute some present or potential hazard to people or property.

The Special Hazards Bulletins are a copyrighted service provided by the Association to its 136 member companies. Members of the public may obtain copies by contacting their local independent insurance agent or one of the Association's member companies.

Fire Protection for Nuclear Reactors

As nuclear reactors find increasing use in this atomic age, they bring along fire problems that are both normal and unusual. A recommended fire protection practice for nuclear reactors has just been published by the National Fire Protection Association, in keeping with the efforts of this international nonprofit organization to guide all interested in fire safety.

In treating a subject that may be new to many fire protection authorities, the tentative recommendations cover fire and explosion considerations in nuclear reactors, at the same time including information on design features and operational problems of the reactors themselves.

The material was prepared by the NFPA Committee on Atomic Energy, on which representatives of the Atomic Energy Commission, industry, insurance and other consultants serve. The pamphlet is a companion piece to the NFPA Recommendations on Laboratories Handling Radioactive Materials (NFPA No. 801) published in 1955.

Since the text of the new pamphlet is tentative, the National Fire Protection Association invites comment and criticism from all interested parties, looking to further action at the Association's next annual meeting to finalize recommendations on this subject.

Copies of Tentative Recommended Fire Protection Practice for Nuclear Reactors (NFPA No. 802-T, 64 pages, $1.00) may be obtained from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Mechanical Engineers' Handbook: 6th Edition

Completely revised and modernized, this Sixth Edition of a classic in its field gives quick answers to questions in every branch of mechanical engineering. Theory, standards, and practice in areas ranging from railway engineering to jet propulsion, from power generation to structural design of buildings, and from mechanical refrigeration to hoisting and conveying, are covered by experts in the various fields.

This edition retains the same format and arrangement, and offers the same type of timely, reliable material that made past editions so popular with users. In addition to being completely reset and with all the illustrations redone, this Sixth Edition of "Marks' Handbook" reflects today's advances and developments in the many areas of mechanical engineering.

For example, nuclear power is covered in this edition and reflects modern thinking on effects of irradiation, health physics, reactor design, economies and future development of this source of power. Among the many other topics either new or completely recast are automatic computing machines and their applications, jet propulsion and gas turbines, high-speed aerodynamics, mechanics of materials, steam boilers, railway engineering, corrosion, and structural design of buildings.

The 18 sections of the handbook are the work of over 100 contributing experts. In a typical section they take the reader from such simple concepts as center-of-gravity and energy to impact and attraction, stresses in framed structures, friction, mechanics of fluids, dimensional analysis, and the theory of models in predicting full-scale effects. Other sections, ranging from mathematics and mechanics of materials to heat, transportation, and building construction and equipment are covered in equivalent detail.

The Editor-in-Chief, Theodore Baumeister, is well equipped to carry on the work begun so many years ago by the late Lionel Marks. Currently he is the Stevens Professor in Mechanical Engineering at Columbia University. He has also served as a consultant to many companies, including public utilities, industrials, and consulting engineering firms. He is also the author of numerous technical and professional articles and papers.

Further details on the Sixth Edition, Mechanical Engineers' Handbook (2320 pages; $23.50), are available from McGraw-Hill's Industrial and Business Book Information Service, 327 West 41st Street, New York 36, New York.

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The tape tells the story. It reveals at a glance that Tom was late in punching in his stations. Tom probably has a good explanation: perhaps he was checking a leaking pipe or frightening away some young vandals. But he *knows* he must account for that time: he can't argue with the Guardsman's alter-proof record of his activities.

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Conference Scheduled On Paints, Noise Control, Illumination, Windows

In a stepped-up program of research correlation for the building industry, William H. Scheick, executive director of the Building Research Institute, has announced three forthcoming conferences and dates for the annual meeting of the Institute which features a diversified technical program.

First of the meetings will be a conference on Field Applied Paints and Protective Coatings, sponsored by the National Paint, Varnish and Lacquer Association and the Painting and Decorating Contractors of America, to be held Dec. 3–4 at the Shoreham Hotel, Washington, D. C. This meeting will explore new developments in all types of paints for interior and exterior use, and new methods of application, their uses and effectiveness. A special group of talks will be devoted to paints and coatings for industrial requirements, and another session will find building owners of both residential and commercial properties discussing paint maintenance and the most economic use of paints and coatings for functional color, esthetics and maintenance of property over the life of a building. This latter group will also include operators of hospitals, schools and other institutional buildings, representatives of the U. S. Public Buildings Service and Public Housing Administration, plus experts on various interior and exterior paints and coatings.

On Noise Control

Announced for Jan. 14–15 at the Hotel New Yorker, New York, N. Y., is a conference on Noise Control in Buildings. Chairman of the BRI committee for this conference is John S. Parkinson, manager of building products research for Johns-Manville Corporation. Working with Parkinson are subcommittees chairmaned by Wallace Waterfall, secretary of Acoustical Society of America, in charge of arrangements, and by Conrad Hemond, Jr., consultant in acoustical engineering, in charge of the program subject matter.

In the planning stages, but with no dates definitely scheduled as yet is a third research correlation meeting which will deal with "The Luminous Environment." This meeting, to be held in Cleveland, Ohio, will be devoted to examination of the new lighting standards soon to be proposed by the Illuminating Engineering Society, and their implications for the construction industry as well as the professions of engineering and architecture. Chairman for this activity is BRI member Murray L. Quin, project engineer of Day-Brite Lighting, Inc., of St. Louis, Mo.

Open to Public

All three of these meetings, plus the BRI 8th Annual Meeting, now set for April 6–8, 1959 at the Hotel Penn-Sheraton in Pittsburgh, will be open to the interested public as well as BRI members and their guests. The BRI annual meeting traditionally features a program of diversified building research sessions to attract the interest of all the various segments of BRI membership. A unit of the National Academy of Sciences-National Research Council, the Building Research Institute is a membership organization consisting of architects, engineers, contractors, builders, building owners and operators, financial institutions, manufacturers and distributors of building materials of all kinds. Memberships are open to individuals and firms both in this country and abroad.

Also on the docket for this fall is a meeting on Selection of Windows to be conducted by the BRI Study Group on Building Operation and Maintenance, under the chairmanship of Howard E. Phillips, building engineer, American Telephone and Telegraph Co. Details of the meeting, which will be limited in attendance to BRI members and invited guests, will be announced at a later date.

Further information about any of these forthcoming BRI programs may be obtained from Harold Horowitz, Technical Secretary, Building Research Institute, 2101 Constitution Ave., Washington 25, D.C.

Lumber Mill Accidents

Preliminary estimates based on a special survey by the U. S. Department of Labor's Bureau of Labor Statistics indicate that more than 32,000 sawmill and planing mill workers were disabled by work accidents during 1955. Of these, approximately 100 died and 2,325 were permanently disabled.

A loss of 625,000 man-days of work resulted, with wage losses alone amounting to $6.3 million during the year, only partially covered by workmen's compensation payments. Future losses arising from these injuries will increase the total loss to approximately 2.7 million man-days and $26.8 million in wages. Accurate data on losses due to medical costs, property damage, and other nonwage costs are not available, but it is estimated that the total costs of work accidents occurring in 1955 in the sawmill and planing mill industry will be between $63 and $95 million.

Disabling injuries were much more frequent in sawmills than in planing mills (45 and 29 per million hours, respectively). Sawmills and integrated saw and planing mills, however, reported almost identical frequency rates (45 and 44).

For the 3 classes of operations, the average severity of injuries measured in terms of number of days of disability per million hours worked, generally followed the pattern of their respective frequency rates (planing mills, 2,645; sawmills, 3,752; and integrated mills, 3,593). Measured by the average time lost per injury, however, the experience of planing mill workers was unfavorable (planing mills, 93 days; sawmills, 84 days; and integrated mills, 81 days).

Regionally, Western mill operations generally had the highest incidence of injuries—51 disabling injuries per million hours worked. Southern mills had the lowest rate with 36; Northern mills averaged 42. For sawmills and integrated operations, Western mills had much higher rates (60 and 51) than similar Northern mills (43 and 42) and Southern mills (34 and 39); for planing mills, the Western rate (35) was only slightly higher than the rate for Northern mills (34), but it was approximately 50 percent higher than the Southern rate (26).

THE FIRE FRONT

Fire Chiefs Indicate Fire Hose Preferences

Conclusions from a survey in which 600 fire chiefs state their preference in fire hose are reported in a recent issue of "Fire Engineering." The survey was conducted recently among chiefs in U. S. cities of more than 10,000 population. Responding fire departments include full paid, part paid, and volunteer, with a combined ownership of 27,700,000 feet of hose.

The survey reports on hose use and maintenance problems, length of hose life, and purchase plans, laying emphasis upon type of hose preferred. It discloses that although modern synthetic fibers have been available in hose for only five years, they have made a strong penetration into the field. This was found particularly true for "Dacron" polyester fiber.

Sixty-three percent of the fire departments use both combination "Dacron"-and-cotton hose and all-cotton; 25 percent use all-cotton exclusively; four percent use "Dacron"-and-cotton exclusively. The remaining eight percent of the replies are divided among those that use all three types, or nylon-and-cotton exclusively. In stating their preferences for particular type jacket construction, 68 percent of the respondents preferred "Dacron" -and-cotton, 17 percent preferred all-cotton, five percent preferred nylon-and-cotton, and 10 percent specified no particular choice.

Seventy-one percent of the chiefs say they will require synthetic fibers in the jacket weave of hose to be bought in the future, and 79 percent of the responding chiefs believe the man-made fiber hose will become more popular in the future.

The survey shows these municipal fire departments buy about 3,000,000 feet of hose a year. Regarding hose maintenance, the study cited a noticeable trend toward use of dryers. The chiefs labeled handling disadvantages brought on by stiffness, and heavy weight, as their two principal hose problems.

August Losses Drop

Estimated fire losses in the United States during August amounted to $75,491,000, the National Board of Fire Underwriters has reported. This loss represents a decrease of 3.7 percent from losses of $78,364,000 reported for August, 1957, and a decrease of 6.5 percent from losses of $80,782,000 for last July (1958).

Losses for the first eight months of 1958 now total $737,508,000, an increase of 4.4 percent over the first eight months of 1957, when they amounted to $706,333,000. These estimated losses include an allowance for uninsured and unreported losses.

Fire Hazards of Air Conditioning

Air conditioning systems are of three types, known as: summer air conditioning systems which cool, dehumidify and circulate the air; winter air conditioning systems which heat, humidify and circulate; and year round air conditioning systems which perform the functions of both summer and winter systems. A complete air conditioning system also cleans the air and provides ventilation by admitting some fresh air. Circulation is produced by fans and duct systems, heating by steam or hot water coils of by coal, gas or oil fired furnaces, cooling by use of ice or mechanical refrigeration, and cleaning by air washers or filters.

The feature of greatest importance from the fire hazard standpoint is the opportunity which ducts present for transmitting fire and smoke from one section of a building to another, warns a recent bulletin of the National Board of Fire Underwriters. In some cases duct systems have been the means for spreading fire from one small portion of a building to the entire building. Even where fire itself is not carried through the duct system a great deal of damage can be done through the transmission of smoke, especially in department stores and theatre auditoriums. In theatres smoke issuing from a system is likely also to cause panic. Where not properly safeguarded extensive duct systems can be expected to make fire fighting difficult and to result in large fire losses.

Divide the System

One of the best ways to reduce the possibility of having an air conditioning system spread fire throughout a building is to divide the system in a large building into several parts with wholly separate duct systems for each part. In this way the area subject to fire attack through the duct system can be definitely limited. Where values are high, or the contents very flammable or there are different occupancies on each floor, it is advisable to have a separate duct system for each floor in the building.

Shut off Fans

Many systems have ducts extending through several floors in the building and through fire partitions. In such cases automatic fire dampers should be installed in the ducts where they pass through fire partitions, and in the case of a vertical duct serving several floors such fire dampers should be installed at each opening in the main vertical duct and including points at which branch ducts are attached to the vertical duct.

An important additional safeguard is a manually operated fan

shut-off installed at a location which will be readily accessible under fire conditions. Air conditioning equipment is frequently installed on the roof of a building or in a basement or sub-basement. In case of fire it may be difficult to get to a basement to shut off the system and it should not be necessary to go to the roof.

Most air conditioning systems recirculate a considerable portion of the air and where this is done an additional safeguard which is desirable is to have the fan arranged to shut down automatically in case of fire. A simple method of obtaining this is to have a thermostatic device in the return air duct close to the fan, which will operate whenever the temperature of the air coming to the fan becomes excessive.

Portions of the ducts of air conditioning systems are frequently lined with sound absorbing material to prevent objectionable noises being transmitted through the system. In other cases ducts are lined to cut down heat transmission through duct walls. All linings inside ducts should be approved fire-resistive materials. The hazard of combustible linings in air ducts was illustrated by two fires described in Special Interest Bulletin No. 10.

Present Fire Hazard

Air filters present a fire hazard as has been shown by several fires. Filters are frequently coated with oil to help catch the dust. It is important that such oil be either non-combustible or have a high flashpoint so it will not be readily ignited. Combustible material such as cotton, paper and felt have been used for air filters. When these become covered with dust, the combination of combustible filter and combustible dust presents a serious fire hazard. In one system a filter of steel wool saturated with mineral oil was used. The combination of dust and mineral oil became ignited and possibly aided by the burning of the steel wool produced sufficient heat to melt the solder in the copper cooling coils ahead of the filter, resulting in the release of a considerable quantity of refrigerant. Air filters should be of types listed by Underwriters' Laboratories, Inc. Such filters will not burn freely or emit large volume of smoke or other objectionable products of combustion when attacked by flame.

Where a flammable or highly toxic refrigerant is employed for air cooling, it is important that no coils containing such refrigerant be inserted in any air passage. If this is done and a leak should develop in the system, the refrigerant gas would be distributed through the ducts. Detailed provisions for safe installation of air conditioning systems are contained in the Standards of the National Board of Fire Underwriters for the Installation of Air Conditioning Systems NBFU No. 90A.

NFPA Meeting

Plans for the Fall Conference of the National Fire Protection Association have been completed. To be held on November 17, 18 and 19 at Pittsburgh, Pa., it will bring together several hundred fire safety experts from the United States and Canada. Fire marshals from both countries will be on hand to attend a concurrent meeting of the Fire Marshals' Section on November 17.

Morning and afternoon sessions of the three-day conference will include discussions of NFPA policies and activities as well as a number of talks on new developments in fire protection and prevention.

Speaking on NFPA activities will be the Association's chairman of the board, T. Seddon Duke of Philadelphia, its president, Fire Chief Henry G. Thomas of Hartford, and its general manager, Percy Bugbee.

Other speakers will cover a wide variety of subjects, ranging from firemanship training and Sparky education programs to the economics of industrial fire protection and proposed electrical code changes.

A feature of the November 18 and 19 programs will be afternoon forums on automatic sprinkler protection, hospital operating rooms, fire doors and windows and fire extinguishers and extinguishing systems.

Headquarters for the National Fire Protection Association conference will be in Pittsburgh's Penn-Sheraton Hotel.

Aircraft Fire Codes

Fire safety in aircraft operations and for aircraft hangars received another boost with the publication of three new editions of NFPA recommendations in this field.

The National Fire Protection Association, at its annual meeting, adopted an extensive revision of the NFPA Suggestions for Aircraft Rescue and Fire Fighting Services for Airports, identified as NFPA No. 403. The principal changes in the 1958 edition include an entirely new article on training of aircraft rescue and fire fighting personnel and the inclusion of more specific recommendations for light fire fighting vehicles designed to reach accident sites prior to the major units of fire fighting equipment. Another change involves the matter of administrative control over such activities at airports within municipalities where public fire services are available.

Aircraft fueling is a specialized phase of aircraft operational safety, and the National Fire Protection Association has issued a revision of its Standard No. 407 covering this subject. The principal changes from the last previous edition involve only recommendations on the fuel servicing tank vehicles employed in this service including items on the flashing around filler openings, cabinets housing auxiliary vehicle equipment, the drive for fuel servicing pumps and the vehicle lighting and electrical equipment.

Revision Announced

The Aviation Committee of the NFPA also announces a revision of its standards on Aircraft Hangars, adopted at the NFPA annual meeting this year. The changes concern draft stops in ceiling areas of hangars and details on foam-water sprinkler system design.

Copies of the publications in pamphlet form are available from the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.: Aircraft Rescue and Fire Fighting (NFPA No. 403, 65 pages, $1.00); Fueling Aircraft on the Ground (NFPA No. 407, 44 pages, 75 cents); Aircraft Hangars (NFPA No. 409, 64 pages, 75 cents).

Hood of new suit is similar to that now used, save for aluminum shells. Transparent shield is metal-coated.

New heat-protective aluminum coated suits are worn over the present fire-fighting clothes, garb of man at right.

New suit's aluminum coating reflects 90% of radiant heat to which it is exposed. Fabric base is flexible, light.

Air Force Develops New Fire Fighting Suit

Twenty thousand new aluminum-coated, heat-protective suits, which were developed and tested by Air Force engineers and which may revolutionize fire-fighting and rescue procedures, have been ordered by the Air Force for its emergency crews at domestic and foreign bases.

The coat and trousers of the three-piece suit are worn as "shells" over existing bunking clothes. (The liner of the present coat will be removed.) All three pieces—including the hood—are coated with a micro-thin layer of aluminum less than six-millionths of an inch thick which provides increased protection by reflecting 90 percent of the radiant heat away from the wearer.

This reflective characteristic may change present fire-fighting and rescue procedures. For example the wearer can now enter a hot area without being "wet down" or covered with foam (the former frequently caused steaming within the suit, the latter impaired visibility by splashing on the wearer's visor); he can stand closer to intense heat, permitting more effective and economical use of water; he can enter a hot area sooner; and he can stay longer.

During laboratory tests, the aluminum-coated fabric withstood 25-second exposure to the intense radiant heat emanating from a source heated to 2,550 degrees F. (Called the "Globar" test, the fabric is suspended at the focus of the eliptical reflector behind the heat source—about 3½ inches away—which is the hottest point.) By comparison, conventional heavy-weight underwriter's grade asbestos fabric exposed to the same heat would char to uselessness within five seconds.

Besides protection from heat, the fabric is also designed for flexibility in action, light weight, and ability to operate in frigid temperatures.

The tough, micro-thin coating of aluminum is on an asbestos-cotton-glass fiber material, and is used on all three pieces of the new Air Force suit (trousers, coat, and hood).

The thinness of the aluminum coating permits the high heat-reflective qualities of aluminum without adding bulk, weight or inflexibility. Weight of the entire three-piece suit, including the head fittings and visibility shield in the hood, is about 11 pounds.

Specifications for the suit were developed by Air Force engineers at Wright-Patterson field. Testing included operational use at Air Force bases for nearly two years, following laboratory experiments to develop materials and design. Details of these Air Force suits are:

The coat is unlined, knee-length, and collarless. The sleeve cuffs can be turned up and snapped in place; elbows are reinforced with patches from the basic aluminized asbestos-

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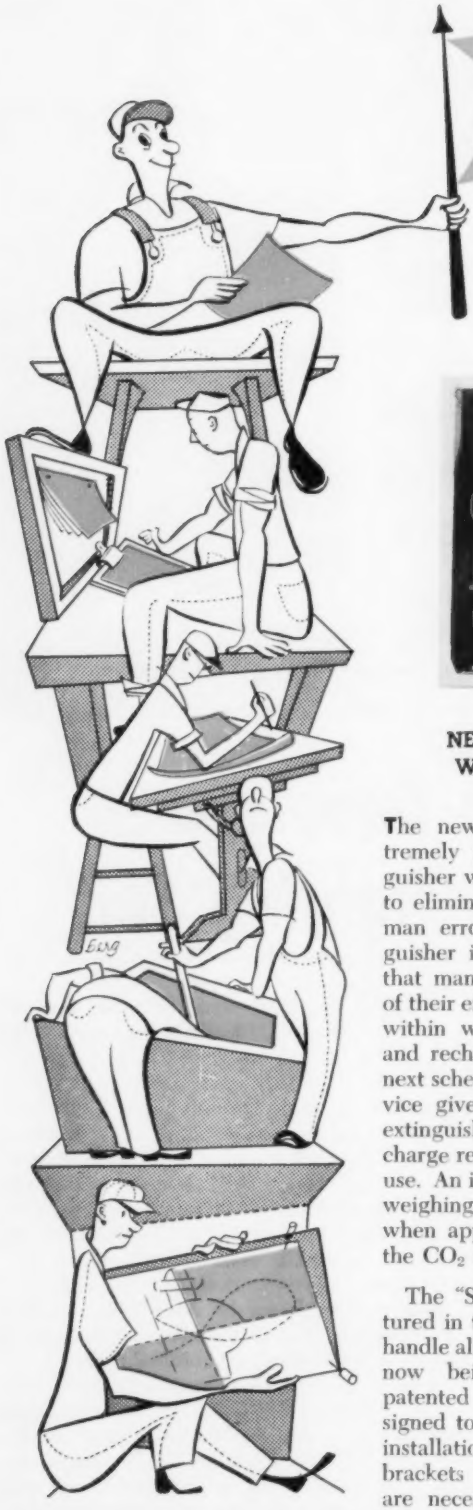
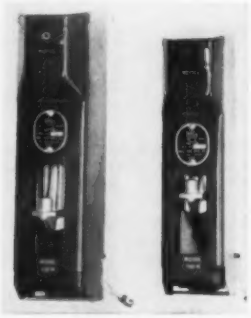
KEEPING UP WITH



FIRE PROTECTION SERIES
other articles Sept. and Oct.



NEW EXTINGUISHER WEIGHING DEVICE

The new "silent Sentry," an extremely practical CO_2 fire extinguisher weighing device is claimed to eliminate any possibility of human error in periodic, fire extinguisher inspection. Tests indicate that many CO_2 bottles lose much of their effective fire fighting charge within weeks after an inspection and recharge and long before the next scheduled inspection. This device gives positive assurance that extinguishers contain an effective charge ready for instant emergency use. An indicator on the face of the weighing unit will register "Refill" when approximately one-fourth of the CO_2 charge escapes.

The "Silent Sentry" is manufactured in two basic sizes which will handle all types of fire extinguishers now being manufactured. The patented weighing device is designed to provide easy, rapid wall installation. No separate mounting brackets or attaching accessories are necessary. The unit is completely corrosion and rust proof. Made by Mel-Rod Mfg. Co.

For details, use **Key # FP-1** on inquiry card on page 1.

FIRE ALARM CONTROL PANEL

Installed as the "nerve center" of the Notifier automatic fire detection or sprinkler supervisory system, this panel transmits trouble, supervisory, and fire alarm signals directly to a remote station receiving panel over supervised lines. Available in from one to 80 circuits. Interior view of Model PN-402RP shows four sealed plug-in circuits, common equipment, bell supervisory relay, and fire station tripping device. These units are factory tested, sealed in tamper-proof metal containers, and carry a 5 year warranty. Panels can be installed with socket capacity for adding circuits as plant or building expansion requires. Standard cabinet is 12 x 18 x 6½ inches, in gray, wrinkle-baked enamel with chrome monograms. Translucent vinyl windows reveal designating signal lights. Red cabinets are available on special order. Built-in power supply for one to four circuits. The system is powered by 110 volts, AC, transformed and rectified to low voltage DC operating current. Batteries are used for supervision and standby power.

For details, use **Key # FP-2** on inquiry card on page 1.

FIRE PROTECTION DEVELOPMENTS

ANTI-FREEZE PUMP EXTINGUISHER

A newly improved 2½ gallon pump fire extinguisher in steel or copper shell has been introduced by the Miller-Peerless Mfg. Co. The new pump units and handles are constructed of brass. The company claims that this extinguisher will be effective all year long—low temperatures do not affect it. The unit can be test pumped at any time by pumping the extinguishing solution back into the tank. Recommended for ordinary Class "A" fires. Finished in red enamel, nickel plate, coppertone or polished copper.

For details, use **Key # FP-3** on inquiry card on page 1.

CARBON DIOXIDE EXTINGUISHERS WITH NEW NOZZLE DESIGN

A newly designed discharge device is now provided on five American LaFrance carbon dioxide fire extinguishers to give added protection against Class B and C fires. In addition, each carries the new Underwriters' Laboratories ratings.

With the new design, nozzles have five orifice holes. The usual opening in the center of the nozzle discharges parallel with the taper of the horn. The other four openings are placed around the nozzle, 90° apart from each other. Discharge from these four is at right angles to the side of the horn. This placement enables the snow to break into minute particles, giving almost instant change from snow to gas.

Models equipped with new nozzles are 2½, 5, 10, 15 and 20. Models 5 and 15 are Coast Guard approved. For large blazes beyond the capacity of hand portable units, CO_2 Wheeled Engines are available in 50, 75 and 100 lb. sizes.

For details, use **Key # FP-4** on inquiry card on page 1.

FILLER-DISPENSER SAFETY CAN

A new "type 2" industrial filler-dispenser safety can for use wherever flammable liquids are handled is now being introduced by Eagle Manufacturing Co. Made for heavy duty, the new can is approved by Underwriters' Laboratories, Inc., and Factory Mutual for handling or storing gasoline, oil, or similar liquids in the mill, factory, shop, construction, etc. It also meets strict requirements for railroad use. The "type 2" safety can is made of 24-gauge terne-coated steel. The body and breast are each "seamless-drawn" from one-piece steel and welded together under electronic control. Construction is further enhanced by a heavy 16-gauge steel hoop on the bottom of the can.

A combination "free-swing" carry-operating handle is designed for ease in using the can. To open, engage the handle in gear groove of connecting arm and press down. A flexible metal spout permits pouring or dispensing flammable liquids into small openings without spilling. The pouring spout and filler opening have double metal wire mesh fire baffles or screens for additional fire protection. The Eagle "style 2" safety can comes in 2½ and 5-gallon sizes.

For details, use **Key # FP-5** on inquiry card on page 1.

200-LB. DRY CHEMICAL WHEELED EXTINGUISHER

A new 200-lb. wheeled dry chemical extinguisher for use on flammable liquid, liquefied petroleum gasses, or electrical fires has been intro-

(Continued on the next page)

duced by Walter Kidde & Company, Inc. Unit features a universal nozzle which discharges a dense 40-foot dry chemical stream at a faster rate (total discharge time only 35 seconds). This means more efficient fire extinguishing action and greater heat protection for the operator. It has an extra 50 pounds of fire-smothering dry chemical—a total of 200 pounds, not the conventional 150 pounds. Unit is faster to operate. Remove safety pin, swing valve toggle, and flip the "on-off" nozzle lever.

Extinguisher has an exclusive, "Bridgeman" seal, head assembly which gives a positive seal made handtight without tools. When the unit is pressurized to 450 pounds, a force of 3 tons acts on the O-ring, squeezing it into the sealed position. This 450 pounds normal pressure acts on the head assembly to lift a 5-inch diameter sleeve to squeeze the O-ring against a stop. The more pressure, the tighter the unit. The powder container cannot admit moist air. The design features of this new wheeled unit make it easy to maneuver. It has a low, balanced center of gravity, a wider handle, and larger, lubricated wheels. It's lighter in weight as it requires no heavy, cumbersome nitrogen cylinder. It is available with either 50 or 100 feet of hose. A dust- and moisture-proof pressure gauge indicates readiness for action. This gauge, built to Kidde specifications with a brass case and a selectron shatter-proof crystal, is recessed in the unit's head and surmounted by a protective guard. This new weather- and corrosion-protected unit is operable over a wide temperature range—from minus 40 degrees F. to plus 120 degrees F. Approved by Underwriters' Laboratories.

For details, use **Key # FP-6** on inquiry card on page 1.

DRY CHEMICAL FIRE EXTINGUISHER

The General Air Products Corp. announces the availability of a new pressurized dry chemical fire extinguisher in 5, 10, 20 and 30 lb. sizes. Units have been pressurized with nitrogen to 350 lbs. Cylinders bear the approval of the I. C. C.

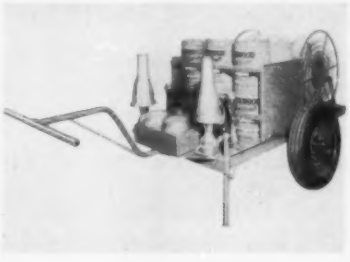
A squeeze grip valve, which

contains a fusible safety plug, is extra large for added balance and safety. All models contain their own hose and horn. A convenient pressure gauge, with its own guard, indicates readiness for use and eliminates doubt. Unit is easy to operate and to recharge—where it is used. Operation is simple—pull the locking pin, aim horn, squeeze valve and the extinguisher goes into action. Unit carries the approval of Underwriters' and Factory Mutual Laboratories.

For details, use **Key # FP-7** on inquiry card on page 1.

AIR-FOAM CART

To lend mobility to the new "Air-Foam" equipment being offered by an increasing number of manufacturers, this cart will carry 250' of 2½" single jacket hose; 12 cans of air-foam liquid; 2 eductors; 2 nozzles; 2 strainers; 2 stream



shapers. Spanners and miscellaneous tools are carried in the tool box. Cart can be furnished with hand draw bar (as shown) or with trailer hitch. 5.90 x 15 pneumatic tires and tubes are standard equipment. Manufactured by the Wirt & Knox Mfg. Co.

For details, use **Key # FP-8** on inquiry card on page 1.

SPACE-SAVING 5-GALLON SAFETY CAN

New oval shape makes a compact container; requires less storage space and is easier to handle and use. Five oval shape cans can be stored in storage cabinets and safety vaults in the same area required for three of the customary round safety cans. Flexible metal pouring spout eliminates hazardous spillage when dispensing, and permits filling of containers with small receiving openings without waste. Pouring spout swivels to a "tuck-away" position over the can body when not in use to permit cans to be placed close together.

Sturdy, terne plate body withstands careless usage. Seams are lap-joined and then electrically welded into a single leak-proof container; terne plate construction provides for lead-coating for greater corrosion resistance. Sides of the safety can are debossed for added strength. A shock rim at bottom raises the can from the floor. Fill cap opens to a full 80 degrees to permit quick, unrestricted filling. Both fill and dispensing openings have perforated metal fire baffles to guard against ignition. The self-closing cap over the fill opening also supplies automatic vapor pressure relief. Manufactured by the Protectoseal Co.

For details, use **Key # FP-9** on inquiry card on page 1.

EMERGENCY VEHICLE FIGHTS FIRES

A new means to provide instant protective measures in the event of fire is a new "Emergency Vehicle" announced by The Lofstrand Company. The new unit is a small, fast, highly maneuverable vehicle, readily adapted to rapid passage through aisles spaces inside the plant, as well as ramps and slopes of as much as 15%.

Placed in strategic locations, this combined fire and emergency unit contains, in addition to extension ladders, necessary safety equipment such as first aid kits, resuscitator, gas mask, stretcher, fire extinguishers, and many other tools to meet various emergencies. A "Walkie-Talkie" set is available as auxiliary equipment.

While the primary function of the vehicle is to provide emergency protection for fires and accidents, the vehicle can be used for small chore maintenance in minor replacements, routine plant checking in off hours, and guard or watchman duty. Such routine use assures positive readiness for action. Civilian Defense agencies may also find this vehicle of great value in training programs when used in combination with utility rescue trailers, etc.

For details, use **Key # FP-10** on inquiry card on page 1.

20–30 LB DRY CHEMICAL EXTINGUISHERS

Heat absorbing dry chemical powder that turns into a fire-killing gas, effective on both Class B and C fires, has been introduced in 20 and 30 pound heavy-duty models by Buffalo Fire Appliance Corp. Dry

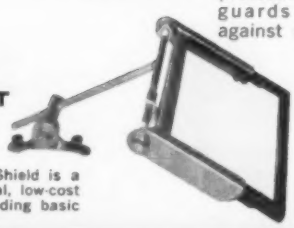
(Continued on the next page)

JUNKIN ELECTRO-LOCK SHIELD

MAXIMUM visibility... MAXIMUM protection!

The Junkin Electro-Lock Shield permits the operator to see clearly the work he is performing and at the same time protects him from severe injury or eye damage. Interlocking power and light circuits will not permit the machine to operate unless the shatter-proof Junkin Electro-Lock Shield is in complete protective position. This feature guards unthinking operators against mishap.

Junkin SAF-SIGHT SHIELD



The Saf-Sight Shield is a simple, practical, low-cost means of providing basic protection.

Write for FREE BULLETIN

JUNKIN ENGINEERED SAFETY

JUNKIN SAFETY APPLIANCES
3121 Millers Lane, Louisville 16, Ky.

(For details, use Key # X-18 on card on page 1)

A NEW JUSTRITE EXCLUSIVE FEATURE!

a portable parts basket with the new BENCH CAN

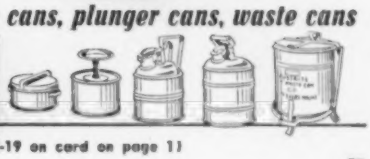
Increases safety and speed in cleaning and handling small parts! Keeps hands out of solvents. Use ½-gal. *or* full gal., hands stay dry! Recessed well in dasher stops rolling parts, ends "jamming" under rim. 7" well, 7½" dasher. Cleans larger pieces, too!

Your Dependable Local Industrial Distributor has:

safety cans, bench cans, lab cans, plunger cans, waste cans

Dept. Q-118

JUSTRITE
CHICAGO 14, ILL.



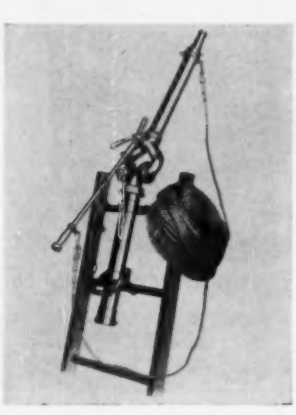
(For details, use Key # X-19 on card on page 1)

chemical powder, non-toxic, non-freezing, and non-corrosive does not conduct electricity, and is recommended for electrical fires (Class C) as well as for gasoline, paint, propane, oil, chemicals, and other flammable liquids (Class B). Both units have been tested and approved by Factory Mutual and Underwriters' Laboratories, each receiving the U. L. rating of 20-B, C. Built for heavy-duty use, the extinguishers have heavy gauge steel shells, shock resistant valves, reinforced discharge hoses, and diffuser nozzles. Press-lever construction permits fast and controlled operation with a 15 to 20 foot stream that spreads in a 60° fan.

For details, use **Key # FP-11** on inquiry card on page 1.

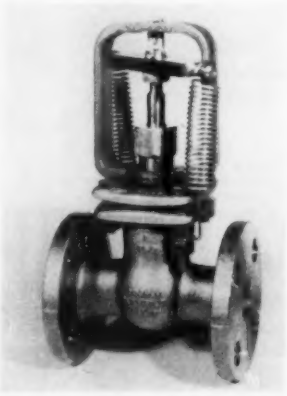
PORTABLE LADDER PIPE

A quick-locking device for added safety to firemen has been introduced on the new "Baker Portable Ladder Pipe." This device enables the fireman to lock the nozzle in any direction, and move back down the ladder if the fire becomes too intense. A simple back throw on the level releases the pipe for changing direction of play.



An extremely efficient and versatile unit, the ladder pipe also features quick-release ladder clamps. It may be aimed vertically through an arc of 120°, but eliminates any dangerous lateral movement. It features an exclusive single-yoke construction, and is built entirely of chrome-plated bronze. This unit is equally suitable for fixed mountings in industrial and mill installations. Manufactured by the J. M. Baker Pattern Co., Inc.

For details, use **Key # FP-12** on inquiry card on page 1.



PLANT FIRE PROTECTION VALVE

The Valve and Fitting Div. of Cooper Alloy Corp. has announced a new stainless steel, fire protection, spring-loaded gate valve. Many plant fires start in one location and then spread out of control when fed by process piping carrying additional combustibles to the area. A special fire protection, gate valve shuts off fluid flow as temperatures build up. Manufactured with petroleum producers, acid plants, pharmaceutical firms, film processors, and liquid combustible producers in mind, this valve features a special bonnet equipped with a fusible link. The valve closes when the temperature around it reaches the link melting point of 160°F separating the link, which shuts off the supply of combustibles into the fire area.

Designed into the valve is a rotating double disc assembly which will maintain a tight seal even if the body distorts due to heat. With springs made of stainless steel to resist atmospheric corrosion during normal plant operation, the valve is available in alloy types 304, 316, FA-20 as well as monel and nickel in sizes from ½"–2". A retained bonnet gasket for higher, more uniform loading and one piece stem and disc carrier is also incorporated.

For details, use **Key #FP-13** on inquiry card on page 1.

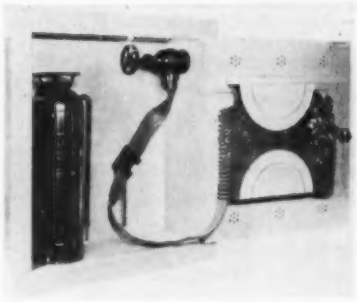
DRY CHEMICAL EXTINGUISHERS RECHARGED IN FIELD

Charging of pressurized dry chemical portable fire extinguishers in the field when 250 psi air is not readily available is simple with a new adapter announced by Walter Kidde & Company, Inc.

Here's how recharging these units with carbon dioxide (rather than air) is accomplished: 1. Unscrew the horn-hose assembly. 2. Screw in the recharge adapter. 3. Lay the extinguisher on its side on a horizontal flat surface with pressure gauge on top. 4. Start to screw in the carbon dioxide recharge cartridge. 5. Pull the trigger and continue to screw in the recharge cartridge until carbon dioxide begins to discharge from the cartridge into the portable. 6. Observe the portable's pressure gauge and release the trigger and simultaneously unscrew the recharge cartridge when the gauge reads 180 psi for a 20-pound pressurized dry chemical portable and 180–225 psi for a 30-pound pressurized dry chemical portable. 7. Remove the recharge adapter and screw in the horn-hose.

When the U.L.- and F.M.-approved portables were introduced recently, Kidde stated that their designs stress simplified operation in a fire emergency.

For details, use **Key # FP-14** on inquiry card on page 1.



FIRE HOSE CABINET

A wholly new type of fire hose cabinet, developed by W. D. Allen Mfg. Co., offers several advantages to our readers. It is said to be the first complete unit to be 100% Underwriters Listed. These new products comprise the "Hozegard" line and save substantial space—up to 35% in area and depth. They may be installed on plane, even floors where water-serviced pillars or walls are widely spaced.

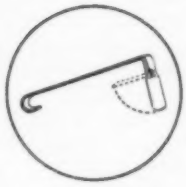
Instead of using a pin-type rack, the "Hozegard" cabinets carry up to 100-feet of 1½" linen hose (less of special hoses) in foulproof form on the door itself. This swings a full 180°, "points" and restores faster. Optional tamper-proof latch shield keeps contents safe for emergency use, yet breaks clean instantly.

For details, use **Key # FP-15** on inquiry card on page 1.

NEW PACKAGING FOR FOAM POWDER

A clear bag made from film of Tenite polyethylene provides new, modern packaging for Chemical "A" Foam Powder, used in fire extinguishers. The tough film has high tear strength and is itself

(Continued on the next page)



Soft Vinyl COVER GOGGLES

***Lens is held firmly** in place by strong metal lock bar. Annealed end piece on the lock bar can be lifted with a fingertip for quick, easy lens replacement.

MODEL #440 provides all-around protection against heavy-impact, chemical splash, dust, sparks or molten metal. Soft vinyl frame form-fits any shape face. #440 is large size which fits over any prescription glasses.

MODEL #440M provides a snug fit for medium and small size faces. It supplements the large #440 to end all cover goggle problems.

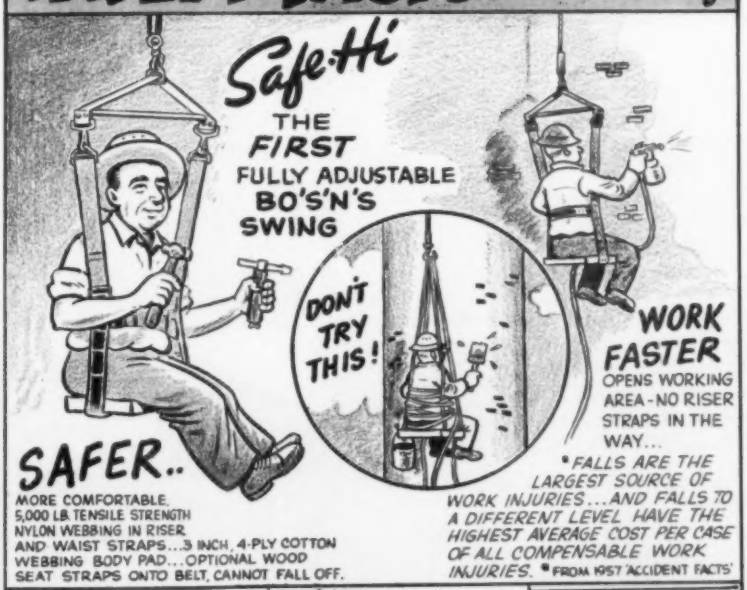
For details, see your authorized EYE SAVERS supplier or write direct.

WATCHEMOKET OPTICAL CO., INC.
232 West Exchange Street
Providence 3, R. I.

Quality Eye Protective Equipment — *Made by the Leaders in Plastics*

(For details, use Key # X-20 on card on page 1)

SAFETY FACTS for Industry


Safe-Hi
THE FIRST FULLY ADJUSTABLE BO'S'N'S SWING
DON'T TRY THIS!
WORK FASTER
OPENS WORKING AREA - NO RISER STRAPS IN THE WAY...
SAFER..
MORE COMFORTABLE. 5,000 LB. TENSILE STRENGTH NYLON WEBBING IN RISER AND WAIST STRAPS...3 INCH, 4-PLY COTTON WEBBING BODY PAD...OPTIONAL WOOD SEAT STRAPS ONTO BELT, CANNOT FALL OFF.
*FALLS ARE THE LARGEST SOURCE OF WORK INJURIES...AND FALLS TO A DIFFERENT LEVEL HAVE THE HIGHEST AVERAGE COST PER CASE OF ALL COMPENSABLE WORK INJURIES. *FROM 1957 'ACCIDENT FACTS'
SPREADER
CAT. NO. 162
Greater working convenience. Greater production. Do a Better Job—Faster!
WOODEN SEAT
CAT. NO. 161
When ordering Bo'sn's Swing with wooden seat, order as follows: No. 161 with No. 161
ROSE MANUFACTURING CO.
2700 W. BARBERRY PLACE
DENVER 4, COLORADO
Safe-Hi
DENVER

(For details, use Key # X-21 on card on page 1)

inert to the chemical. Resistant to moisture and moisture-vapor transmission, it serves to keep bag contents dry and clean until use.

The product label, including complete instructions for use of the chemical, is printed on one side of the bag in black against bright yellow. A single package holds the amount needed for charging the inner chamber of a 2½-gallon foam fire extinguisher. Available from The General Fire Extinguisher Corp.

For details, use **Key # FP-16** on inquiry card on page 1.

2½-LB. DRY CHEMICAL EXTINGUISHER

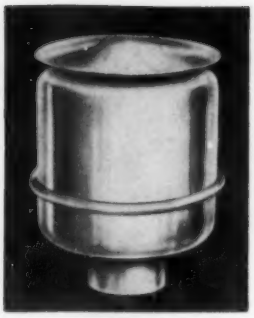
Dry chemical powder is now available in a 2½-pound pressurized extinguisher from The Fyr-Fyter Company. Known as the Model 23-1, this portable extinguisher is recommended for emergency vehicles, trucks, and busses, small boats where on-the-spot protection is desired against incipient fires in gas, oil, paint, propane, chemicals, and electrical equipment.

Depression of the squeeze lever spreads a 60° wide angle blanket of dry chemical powder to a range of 12 feet. The 2½-pound model is Underwriters' rated at 2-B, C. The chrome-plated case is both corrosion resistant and conspicuous for quick location in emergencies. Operating at a pressure of 150 psi which is indicated on a built-in gauge, the unit has been tested to 450 psi without damage.

For details, use **Key # FP-17** on inquiry card on page 1.

SPARK ARRESTOR FOR SMALL ENGINES

A "Gill" spark arrestor that is almost 100% efficient at all times, for application on small internal-combustion engines up to 40 horse-



power or 150 cubic-inch engine displacement, is announced by Erickson Products Co. It mounts vertically at the end of the exhaust pipe and can be used on stationary and portable engines, small power plants, hay loaders, hay bailers, pumps, and other equipment operating in areas where incandescent exhaust carbon is a fire hazard. The exhaust carbon is safely trapped within the arrestor for periodic disposal. This new spark arrestor, made of stainless steel, is 3¼" by 3½" in size.

For details, use **Key # FP-18** on inquiry card on page 1.

WALL MOUNTED DUNKER

Standard Industrial Products Co. manufacturers of the well known line of "Sipco" Dunking Stations used wherever fire hazards from smoking are a problem, has recently added the new Model 4J to its line. The new model is designed to be mounted permanently on walls, posts, columns, etc. in washroom or other public areas, areas where pilfering is a problem.

Since the canister cannot be lifted off a bracket, the cleaning problem is solved by furnishing a moulded glass fiber inner-liner which fits inside the heavy-duty aluminum canister.

As recommended, the inner-liner is partly filled with water. Drop the "smoke" in the large hole in the canister lid and it's out—for good. This eliminates smouldering, odors and unsanitary conditions. For cleaning, flip back the lid, lift out the inner-liner and dump it. It is available in either a bright polished finish or a black crinkle finish. The new inner-liner fits all "Jumbo" canisters and is available as a separate item.

For details, use **Key # FP-19** on inquiry card on page 1.

FIRE EXTINGUISHERS FOR MARINE USE

Ansul Chemical Company is introducing two new types of marine dry chemical fire extinguishers. The new extinguishers feature special salt water resistant undercoatings and marine name plates indicating Coast Guard approval. They are available in new colors of red, light blue and white.

The two types of extinguishers are:

1. **Portable models** with 4, 10, 20 and 30 pound dry chemical capacity. They are designed for smaller craft with accessible engine compartments.

2. **Fire extinguishing systems, semiportable** with 150 and 350 pound dry chemical capacity. They are designed for the engine rooms of large boats.

All the equipment above is approved by the U. S. Coast Guard. The semiportable extinguishing systems are equipped with 50 feet of hose and "Dualstream" (R) nozzels. This equipment is suitable for one-man operation.

For details, use **Key # FP-20** on inquiry card on page 1.

PAPER THERMOMETERS

"Thermopaper" and "Thermotube" disposable paper temperature indicators are now available for 100, 105 and 110°F. to supplement the previously offered range of 115 through 490°F. They measure temperature by exhibiting an irreversible color change when subjected to predetermined temperatures. Speed of response is faster than a tenth of a second while accuracy is one per cent of the rated temperature. Manufactured by the Paper Thermometer Co., these indicators have an important use recording temperatures around heating equipment, electrical motors, ovens or any other place where there exists a danger of overheating.

For details, use **Key # FP-21** on inquiry card on page 1.

OBLONG-SHAPED FILLER CANS

Oblong-shaped gasoline filler cans are now supplied by Eagle Manufacturing Co. for general use in the hardware, automotive, and industrial fields. They are available in one- and two-gallon sizes. A vent is provided for fast pouring. All cans are equipped with new "spark-proof Hy-Car rubber angled spout." It eliminates spilling of liquid from snap-back action, and is impervious to oil, grease, or gasoline. The spout is equipped with removable brass screen filter or strainer and a rubber plug to seal the opening.

For details, use **Key # FP-22** on inquiry card on page 1.

DRY CHEMICAL FIRE EXTINGUISHER DEMONSTRATED

In a demonstration against a series of oil and gasoline fires, Fire King Corporation, officially introduced its "Fire King" extinguishers. With nearly a thousand square feet of burning surface, a 200-pound model smothered the fire in less than 30 seconds. The manufacturer states it has improved the chemicals used and has incorporated new and improved design features. Especially well adapted to oil and gas fires, the extinguisher is safe for electrical fires.

For details, use **Key # FP-23** on inquiry card on page 1.

NEW DRY CHEMICAL EXTINGUISHER

A newly designed, valve-in-head, cartridge-operated dry chemical extinguisher is now available from The General Fire Extinguisher Corporation. One valve punctures the cartridge and simultaneously provides squeeze-grip control of powder flow without a shut-off-nozzle. Greater powder spread and range is accomplished by use of the "tri-jet" horn. Available in 4, 10, 20, and 30 lb. models these new units have stainless steel shells, making them lighter in weight.

For details, use **Key # FP-24** on inquiry card on page 1.

PORTABLE WATER BAG

Strap-on, portable water bag has its own hose and pump. Swivel Connectors prevent hose kinks and permit left or right hand operation. Pump can be reversed and used to refill the unit. Bag holds 5 gallons and weighs 46 lbs. when filled. Bag is made of a neoprene-coated nylon for rough service. From Fire Equipment Development Co., Inc.

For details, use **Key # FP-25** on inquiry card on page 1.

ELIMINATE ALL SAW HAZARDS!
with BRETT-GUARD
NEW! VISUAL SAFETY TOOL

A versatile combination visual circular saw guard and saw fixture, precision-designed for efficient guiding with the maximum in 100% safe guarding. Simple to set up . . . economical for both large and small jobs . . . so safe that it's being used in vocational schools for the blind . . . made of transparent PLEXIGLAS that lets you see what you saw . . . fully adjustable for all those impossible-to-guard cuts . . . fitting all circular table-type saws for 6" to 22" blades . . . here is truly the last word in both safety and efficiency!

FREE 30 DAY TRIAL! Send blade diameter and make of your saw. Full details on request.
16 MM DEMONSTRATION SOUND FILM! Available free loan.

BRETT-GUARD CORP., 3611 14th Ave., Brooklyn 18, N. Y.

(For details, use Key # X-22 on card on page 1)

Vehicle Safety-Check

For the fourth consecutive year ONE out of every FIVE vehicles safety-checked during the 1958 National Vehicle Safety-Check program was found in need of maintenance attention. A new high of more than 3 million cars and trucks were checked for safe driving condition at community Safety-Check lanes and in dealer service departments during the most intensive voluntary Safety-Check program ever conducted. More than 2,000 communities participated.

"Again in 1958, rear lights were most often found in need of immediate attention among the ten Safety-Check items," reported H. D. Tompkins, Chairman of the Inter-Industry Highway Safety Committee and Vice President of The Firestone Tire & Rubber Company, in announcing Safety-Check results. Brakes, front lights, exhaust systems, and tires were next in order of items most frequently found in unsafe condition.

The Vehicle Safety-Check was conducted during May and June in the 34 states not requiring motor vehicle inspection. It reached motorists before the summer and heavy vacation travel season and encouraged them to **drive safely** in a **Safety-checked car.**

In addition to the record number of vehicles checked, the 1958 Safety-Check enlisted the participation of more public officials, safety, civic and business groups, as well as automotive and allied industry dealers than ever before. The traffic safety effort also received increasing support in 1958 from the operators of vehicle fleets.

Unaware of Defects

Reports from communities that took part in the 1958 Safety-Check once again demonstrated the fact motorists often do not know they are driving cars that need safety service attention. The following are representative examples:

. . . Coffeyville, Kansas, "One owner had his car for eight years, not knowing the rear lights had never been connected."

. . . Columbia, Missouri, "Of the 28 cars that did not pass, all but 4 of the drivers were unaware of the fact their cars were not in good condition."

The Vehicle Safety-Check is sponsored by the Inter-Industry Highway Safety Committee and "Look" Magazine with the cooperation of the Association of State and Provincial Safety Coordinators. The Safety-Check has been conducted as a community-wide traffic safety program each year since 1954.

The table (below) shows the number and percentage of parts needing attention in relation to the total number of items discovered unsafe rather than to all vehicles checked. Thus, in the first listing below, the percentage opposite rear lights means that 27.6% of **all items discovered unsafe** on cars were rear lights.

ITEMS CHECKED	Cars	%	Trucks	%	Total	%
Rear Lights	103,407	27.6	9,838	29.2	113,245	27.7
Brakes	68,504	18.3	5,279	15.7	73,783	18.1
Front Lights	66,578	17.7	5,222	15.5	71,800	17.6
Exhaust System	35,327	9.4	2,761	8.2	38,088	9.3
Tires	32,177	8.6	1,532	4.5	33,709	8.2
Steering	21,974	5.9	2,007	6.0	23,981	5.9
Windshield Wipers	19,493	5.2	2,071	6.1	21,564	5.3
Glass	14,644	3.9	2,272	6.7	16,916	4.1
Horn	9,134	2.4	1,352	4.0	10,486	2.6
Rear View Mirror	3,671	1.0	1,384	4.1	5,055	1.2
	374,909	100.0%	33,718	100.0%	408,627	100.0%

The above itemized breakdown is based on the following reported vehicles checked and rejected: 1,506,323 cars checked. 288,150 cars rejected. 100,558 trucks checked. 20,792 trucks rejected.

New Fire-Fighting Suit

(from page 49)

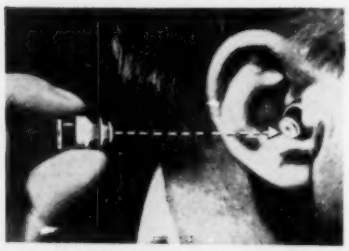
cotton-glass fabric; patch pockets have flaps on the side. A front protective flap on the coat is closed by five rigid snaps and D-rings.

The trousers are made of the same aluminized material, closed by three snap fasteners. Patches of the basic aluminized fabric reinforce the knee area.

The hood is an outershell made of the same aluminized fabric, an innerlining of wool knitted cloth, and a layer of neoprene-coated fiberglass cloth sandwiched between the outershell and innerlining. The face piece is metallized (aluminum or gold) thermal setting plastic .25-inch thick.

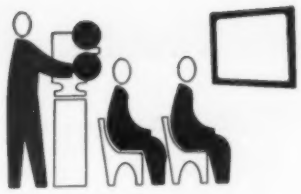
Pictures by courtesy of Minnesota Mining & Manufacturing Co.

Lee Sonic EAR-VALVS
Eliminate the HARMFUL Effects of NOISE to The EAR DRUMS . . .



A FREE 30 Second Demonstration will PROVE this BEYOND QUESTION We GUARANTEE THAT! Remember they are NOT EAR PLUGS! They are scientifically developed sound controls that protect the ear drums without interfering with normal conversation or sound. We'll gladly send you a pair for actual demonstration. THEN you will find out why they are recommended and used wherever NOISE is a HAZARD and a deterrent to normal production. Send for your demonstration pair TODAY on company letterhead. No obligation to purchase.

SIGMA ENGINEERING COMPANY
1491 Vine St., Dept. F-2, Los Angeles 28, Cal.
(Use Key # X-23 on Inquiry Card on page 1)



Safety on Film

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, Etc., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF SAFETY MAINTENANCE, published monthly at Rensselaer, N. Y., for October 1, 1958.

State of New York, County of New York, ss. Before me, a Notary Public in and for the State and County aforesaid, personally appeared Arthur Snyder, who, having been duly sworn according to law, deposes and says that he is the business manager of SAFETY MAINTENANCE, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management and circulation of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editors and business manager, respectively, are: Publisher, Alfred M. Best Company, Inc., Executive Offices, 75 Fulton Street, New York, N. Y.; Managing Editor, C. M. Kellogg; Editor, Harry Armand; Business Manager, Arthur Snyder; all of 75 Fulton Street, New York, N. Y.

2. The owner is Alfred M. Best Company, Inc., 75 Fulton Street, New York, N. Y.; and the owners of 1% or more of the stock are: Gertrude V. Ammermuller, 235 West 102nd Street, New York, N. Y.; Mildred B. Baird, 86 Prospect Ave., Montclair, N. J.; Trustees under the Will of Alfred M. Best, 75 Fulton St., New York, N. Y.; Randolph C. Betts, Montreal, Canada; Clem & Company, Boston, Mass.; Crum & Forster, 110 William St., New York, N. Y.; Lillian E. Floegel, 111 Stratford Ave., Garden City, N. Y.; Andrew J. Gavey, 75 Fulton St., N. Y. 38, N. Y.; Kellogg & Company, Westfield, N. J.; Alice L. Kellogg, 615 Tremont Avenue, Westfield, N. J.; Chester M. Kellogg, 615 Tremont Avenue, Westfield, N. J.; Wilhelmina J. Kellogg, 603 Tremont Ave., Westfield, N. J.; Frank J. Matre, 10 South LaSalle St., Chicago, Ill.; John R. McElraevy, 594 Porter St., Manchester, Conn.; Raymond T. Smith, 10 South LaSalle St., Chicago, Ill.; Vance C. Smith, 20 North Wacker Drive, Chicago, Ill.; Arthur Snyder, 75 Fulton St., New York, N. Y.; Kathryn Snyder, Garden City, N. Y.; Elma W. Thomas and Joan W. Thomas, Indianapolis, Ind.; William E. Whitney, 130 Clifton St., Belmont, Mass.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders and securities holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of a bona fide ownership; and this affiant has no reason to believe that any other person, association or corporation has any interest, direct or indirect in the said stock, bonds or other securities than as so stated by him.

ARTHUR SNYDER,
Business Manager.

Sworn to and subscribed before me this 24th day of September, 1958.

DONALD F. AYERS
NOTARY PUBLIC, State of New York
No. 30-5133375
Qualified in Nassau County
Commission Expires March 30, 1960

Material Handling Films

"Material Handling Films" is the title of a 24-page catalogue listing over 60 material handling education and training films. All films listed in the booklet are offered for loan free of charge by member-companies of The Material Handling Institute, Inc. The films in the catalogue cover a wide variety of material handling subjects, and are grouped into 12 major categories. Under each film listing is a brief description, total running time, ordering information, and whether the film is in color or black and white. Order this free catalogue from: The Material Handling Institute, Inc., Educational Division, One Gateway Center, Pittsburgh 22, Pennsylvania.

Industrial Wiper Film

Veteran radio and TV commentator, John Cameron Swayze, narrates a new 15-minute strip-film just produced by Scott Pater Company. Called "Paper In Industry," the film shows applications for paper wipers that have effected cost savings, higher standards of personal safety, and better maintenance.

Industrial personnel concerned with management, production, safety, and maintenance will find the film educational, informative and interesting. The film takes viewers through the Wilkening Manufacturing Co. plant in Philadelphia where paper wipers help workers maintain precise specifications and tolerances in the manufacture of piston rings for the automotive industries.

Visits, in the film, are made to nine other plants including Bell Aircraft Corp. in Fort Worth, Texas, and the Anheuser-Busch brewery in St. Louis, Mo. Bell, the world's leading producer of commercial and military helicopters, reports savings of $10,000 a year in industrial wiping costs by switching from cloth to disposable paper wipers. At Anheuser-Busch, the the wipers are used for wiping spillage and maintaining strict cleanliness at dispensing machines.

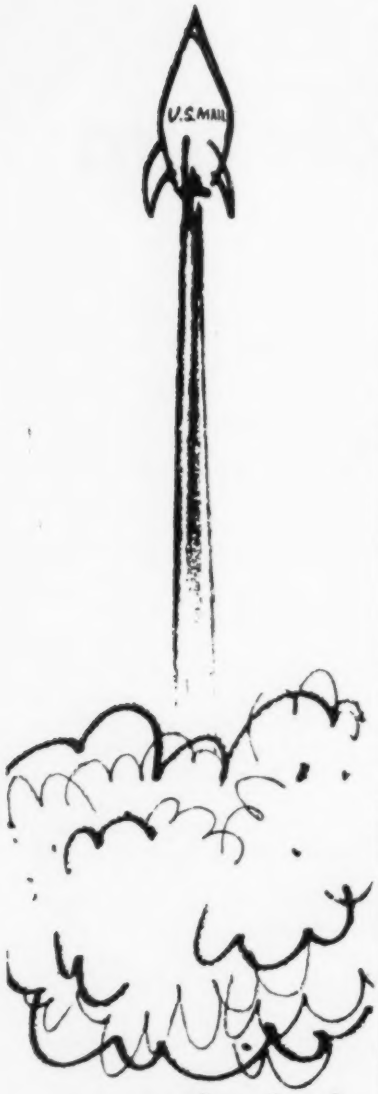
Available for Showings

The film was produced by Close & Patenaude of Philadelphia. It is available for showings by contacting local Scott salesmen. They can be located in the "Yellow Pages" of the telephone directory under "Paper Towels." Additional information on the film can be obtained by writing Scott Paper Company, Industrial Packaged Products Division, Front & Market Streets, Chester, Pa.

Tubing Work Film

A 20-minute color movie, showing some of the hazards encountered in tubing installations and how to avoid them, has been produced by The Imperial Brass Mfg. Co., Chicago. The film demonstrates the correct way of handling tube cutting, flaring and bending operations.

The movie is currently being presented at sales meetings with Imperial Distributors and also is being used at Tubemanship Clinics being held by distributors for industrial plants and trade schools. One of the purposes of the film is to highlight installation methods that save time and prevent trouble on tubing jobs. Further information can be obtained from E. F. Todd, Sales Promotion Manager, Imperial Brass Mfg. Co., 6300 W. Howard St., Chicago 31, Ill.



zone mail indeed results in speed

The Post Office has divided 106 cities into postal delivery zones to speed mail delivery. Be sure to include zone number when writing to these cities; be sure to include *your* zone number in *your* return address — after the city, before the state.

inside the trade

John Casey, Sales Manager of *GRANET CORPORATION*, Framingham, Mass., has announced the appointment of *John D. Mahoney* as Granet representative in the Philadelphia, Baltimore, New Jersey and New York areas. In his new capacity, Mr. Mahoney will represent the company, manufacturers of coated fabric work gloves, on a full-time basis. He is a graduate of Syracuse University, and a former representative of the Glidden Paint Company.

Edward A. Goetz

The appointment of *Edward A. Goetz* as Sales Manager of the *GENTEX CORPORATION*, manufacturer of safety, mechanical and industrial products for industry, sports and the military, has been announced by *Leonard P. Frieder*, president of the corporation.

Mr. Goetz, who was formerly associated with Henrite Products Corporation and the St. Clair Rubber Company, will concentrate on the expansion and development of the industrial lines of the company, including all-plastic safety hats, life jackets, safety innersoles, winter liners for safety hats, and a wide range of materials and components in addition to flight equipment and accessories.

The Gentex Corporation, formerly known as General Textile Mills, Inc., maintains its main plants in Carbondale, Pa., executive offices at 450 Seventh Avenue in New York and a military service office at 601 Arlington Trust Building, Arlington, Va.

THE STANDARD GLOVE COMPANY of Cleveland has purchased the *H. Texier Glove Company* of Plainfield, N. J., one of the largest industrial glove distributors in the East. The sale covers buildings, land and business of the 83-year old company. *Ed Texier* is remaining with the company in an executive sales capacity.

H. Texier and Company will be operated as a wholly owned subsidiary of Standard Glove Co., with no change in management headed by *Ed Mueller*.

J. H. Gilbert and Edward Gilbert, owners of Standard Glove, plan to increase the sales organization with additional lines of industrial products, gloves, apparel and safety equipment as a service to industry in the East.

PYLE-NATIONAL COMPANY, of Chicago, pioneer manufacturer of electrical connectors, fittings and lighting equipment, has contracted to acquire the *Steber Manufacturing Co.*, of Broadview, Ill., a major producer of outdoor lighting fixtures and lighting equipment, it was jointly announced by *William C. Croft*, president of Pyle-National, and *Clarence L. Steber*, a 48-year veteran in the American electrical equipment industry, who will continue active leadership of the Steber operation as president of the Steber Division of Pyle-National.

James Wesley Stonehouse, founder of *STONEHOUSE SIGNS, INC.*, of Denver, Colo., died September 30 at his Los Angeles home. He was 89 years of age. He founded his company, specializing in accident prevention signs for industry, in 1913.

As a pioneer in the specialized safety sign business, Stonehouse designed the original octagonal traffic sign, now universally recognized as a stop sign. Also largely through his efforts accident prevention signs today are standardized in shape and color to readily identify the various kinds of hazards.

Due to ill health, Stonehouse relinquished the presidency of the company to his wife in 1926. He is survived by his wife, Mrs. Hutoka A. Stonehouse, who still maintains active control of the business. A daughter, Mrs. John Meyer of Pocatello, Idaho, also survives.

David J. Richards has retired as Vice President—Sales and Director of *E. F. HOUGHTON & CO.*, Philadelphia, and two other executives have been promoted. The announcement was made following a recent special meeting of the Board of Directors. The two other changes are: *Frank Ross* to Vice President—Sales and *Charles R. Schmitt* to Assistant to Vice President—Sales.

ALAN WOOD STEEL COMPANY, has announced that the duties of *John T. Root*, Advertising Manager of the Company, have been expanded to include the advertising program of Alan Wood's Penco Metal Products Division, which manufactures a complete line of

high quality lockers, shelving and cabinets at its new $2 million plant at Oaks, Pa.

Perry L. Francis, Vice President in Charge of Marketing, stated that Mr. Root will continue to handle all advertising activities of the Company relating to trade publications and product advertising.

Prior to joining Alan Wood as Advertising Manager in February this year, Mr. Root was Assistant Advertising Manager of International Salt Company, Scranton, Pa.

Mr. Root attended Darrow School, New Lebanon, New York and Germantown Friends School in Philadelphia. He graduated from Princeton University in 1933 with a B.A. degree. Between 1945 and 1948, Mr. Root served in the U. S. Navy and during that period accompanied Admiral Richard E. Byrd on an expedition to the South Pole. He is a member of the Military Order of World Wars and is Executive Officer of Battery C, 108th Field Artillery, Pennsylvania National Guard.

The above symbol was recently adopted by the *ASBESTOS TEXTILE INSTITUTE* and will appear on product labels of member companies. It consists of a black field with the flame and the word "Member" in red. Founded in 1944, the aims of the Institute are to assemble and disseminate technical information and to improve quality, equipment, and manufacturing processes to provide maximum value to the consumer. Members are: American Asbestos Textile Corp., Johns-Manville Corp., Keasbey & Mattison Co., Raybestos-Manhattan Inc., Southern Asbestos Co. and Tallman-McClusky Fabrics Co.

Safety Appointments

John A. Batley, Jr., Civilian Safety Director of the Ordnance Corps, retired on September 30th, after more than 30 years of Government service. In recent years, Mr. Batley has served as principal authority and technical advisor for the Ordnance Corps on safety of ammunition, explosives, guided missiles, special weapons, and industrial operations. He planned and directed the Ordnance Corps Safety Program involving over 100 field installations. He has also served as the Alternate Department of the Army voting member on the Armed Services Explosives Safety Board. He provided safety advice surveys of privately-owned, privately-operated companies manufacturing explosives, ammunition, and pyrotechnics under Ordnance contracts. He assisted in the design of Army Air Defense tactical guided missile sites, and acted as safety consultant to friendly foreign governments.

Mr. Batley has received a number of commendation awards during his service with Army Ordnance, and has repeatedly received "outstanding" performance ratings.

Under the personal direction of Mr. Batley, significant accomplishments were made in the Ordnance Corps Safety Program. For example, for six consecutive years (1951–1956), the Ordnance Corps was awarded either the National Safety Council Award of Honor for Safety, or the Department of the Army Award of Merit for Safety. No other Technical Service or Army Command has achieved this record.

Another accomplishment involved marked reductions in accident insurance costs to contractors operating Ordnance installations. For example, the National Defense Project Rating Plan accident insurance savings, for approximately 16 Ordnance contractor operated plants manufacturing ammunition, amounts to $15,912,999 for the period of 1951 to 1953. These savings have continued each year, resulting in the insurance premiums being reduced by 45 percent.

Another significant accomplishment of Mr. Batley's leadership was the continued development of the Ordnance Safety Manual which is considered to contain the best available standards on explosives safety in the United States. These standards have been adopted by the State of Illinois and are frequently requested through proper channels by foreign countries.

Among other agencies to which Mr. Batley has rendered outstanding services are: Atomic Energy Commission, Corps of Engineers, Chemical Corps, Transportation Corps, Quartermaster Corps, Surgeon General's Office, U. S. Coast Guard, Navy and Air Force Departments, Department of Labor, Bureau of Standards, General Services Administration, Army Chief of Staff, Secretary of the Army and Secretary of the Department of Defense.

Eugene L. Newman has been appointed Director of Ground Safety for Central Air Defense Force (ADC), at Richards-Gebaur Air Force Base, Missouri. Mr. Newman, for the past two years, was Chief of Ground Safety at Wright-Patterson Air Force Base, Ohio. Prior to this, he was Chief Safety Engineer of the Air Materiel Force, Europe, and Director of Ground Safety for Eighteenth Air Force.

He is active in the Aeronautical Industries Section of the National Safety Council; a member of the American Society of Safety Engineers, Society of American Military Engineers, German Association of Safety Engineers, Institute of Industrial Safety Officers of the United Kingdom and the Federal Safety Council.

THE POSITIVE
LADDER SAFETY DEVICE

CLIMBING MADE SAFE!
If climber starts to fall, device locks in a notch automatically, instantly. Holds securely. Limits fall to 7 inches.

PREVENTS DEATH AND INJURIES
— FROM FALLING

AUTOMATIC, POSITIVE. Will instantly catch and hold workman if he starts to fall, **even if unconscious.** Requires no attention from climber; he climbs in normal manner. Inexpensive. Easy to install; 3 men can clamp it to ordinary ladder in few hours. Clamps to any rung ladder, peg ladder, pole or framework. No welding or cutting. Notched rail hot-dipped galvanized. Entire equipment rust and corrosion proof. Can be kept free of ice by applying heat inside the carrier rail. In use approx. 10 years. Approved by Safety Engineers and Govt. Agencies throughout country. Patented. Manufactured only by

SAFETY TOWER LADDER CO.
1024 Burbank Blvd., P.O. Box 1052
BURBANK, CALIFORNIA

(Use Key # X-24 on Inquiry Card on page 1)

FOILLE
FIRST AID SPRAY *FOR BURNS*

FOILLE — the antiseptic, analgesic dressing — is indicated for fast, effective relief of pain from burns, sunburn, cuts, wounds and abrasions. Areas can be sprayed thoroughly to provide prompt patient comfort and eliminate painful swabbing. FOILLE fights infection and promotes healing. In 3 oz. and 10 oz. spray.

CARBISULPHOIL CO., DALLAS, TEXAS

ORDER NOW from your supplier

(Use Key # X-25 on Inquiry Card on page 1)

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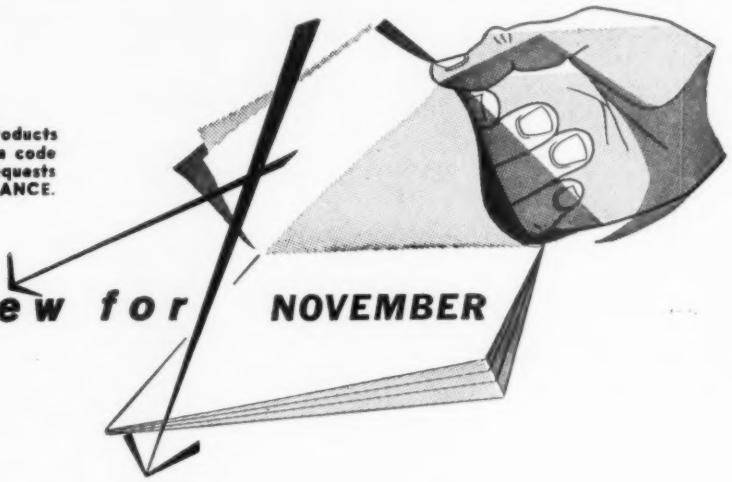
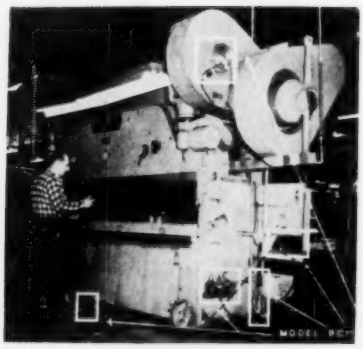


what's new for NOVEMBER



AUTOMATIC PRESS BRAKE

(Use Key # 634 on Inquiry Card on page 1)

"JOGGIT," the new automatic brake control, mounted on a press brake will automatically eliminate whipping and assure uniform bends even with an unskilled operator, claims the manufacturer, the General Automation Corp. Seven features of the new control are—1. Automatic stopping of the ram above the work by a preset dial; 2. Automatic and uniform ram movement through the work at a pre-set rate; 3. Automatic return on the upstroke; 4. Automatic stopping of the ram at top dead center; 5. Automatic hesitation at a predetermined point of the downstroke, then follow through; 6. Operation by tip toe electric foot pedal placed wherever needed; 7. The flip of a switch combines or selects controls to suit many types of operations.

"Joggit" eliminates operator fatigue caused by the usual mechanical foot lever brake operation. The automatic equipment once set for a bend eliminates operator guesswork on production runs. Custom work operators can, in addition, work to a scribed line with ease and complete safety. Two operators on a large metal sheet can safely operate the brake with two foot pedals.

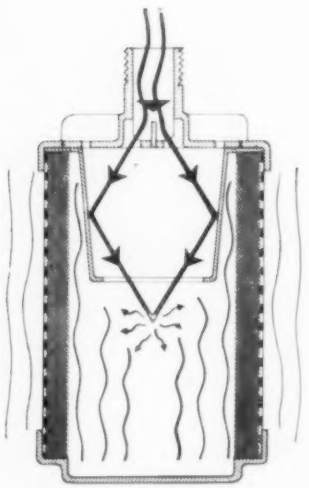
REVOLUTIONARY RESPIRATOR PROTECTS AGAINT HEAT

(Use Key # 635 on Inquiry Card on page 1)

A NEW "Thermalair" respirator which provides protection against excessive heat has been announced by American Optical Co. Developed for workers in areas where intense heat endangers health (such as kilns and ovens where temperatures range from 150 to 300 degrees F), the new device can also be used for emergency entrances in furnaces and boilers for repair work.

Field tests prove the "Thermalair" to be a practical safety device, particularly where workers are limited to a few minutes or seconds of activity because of unbearable heat. With the new respirator, the same conditions were tolerable for extended periods. It can be used with heat-reflective clothing in temperatures up to 300 F. A special aluminized AO hood will accommodate the respirator.

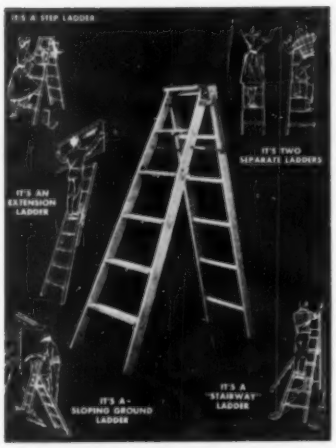
The respirator cartridge contains a metal screen heat exchanger which absorbs heat when the user inhales. Incoming air is cooled to about body temperature. As user exhales, the stored air is forced out and the cycle repeats. The device is inexpensive, can be washed and sterilized, weighs 6 ounces, has low breathing resistance.



IMPROVED AIR NOISE SILENCER

(Use Key # 636 on Inquiry Card on page 1)

THE 1959 MODEL "Atomuffler" (pneumatic muffler), features an improved, internal resonator to silence the irritating noises resulting from air-operation. This new unit is now being distributed by the manufacturer, Allied Witan Co. Engineered to utilize the scientific principle of cancelling equal and opposite forces, the air-operated machine's exhaust port breaks up the air jet. The resulting, scattered waves are parabolically reflected into many, opposing, high-velocity forces. Collision of these focused forces cancels the rushing air before it becomes ear-splitting noise. A radial disseminator then permits the lowered-velocity, exhaust air to quietly drift into the atmosphere. This cancellation principle enables the muffler to diffuse escaping air at a ratio of 60 to 1. The only measurement a buyer need specify, in ordering an "Atomuffler," is the nominal diameter of the exhaust pipe opening.



MULTI-PURPOSE LADDER

(Use Key # 637 on Inquiry Card on page 1)

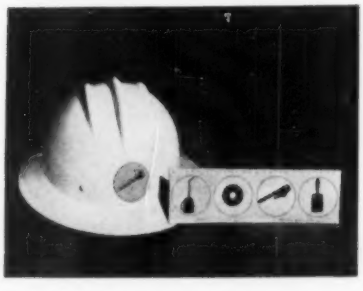
A VERSATILE, new, multi-purpose ladder has been added to the ladder line of The Patent Scaffolding Co., Inc. Known as the "Extend-A-Step," it can be converted from a step ladder to an extension ladder, to a stairwell ladder, to a ladder for sloping ground, and into two separate ladders. The versatility of the "Extend-A-Step" ladder has been achieved with such features as truss-rodded and knee-braced steps; "Gold Medal" safety spreader hinges to prevent pinched fingers; durable, zinc plated hardware. It is constructed of select ladder stock for strength and long life. The ladders are available in sizes from 4 to 8 feet. These models extend to lengths from 5' 5" to 13' 5".

HARD HAT EMBLEMS

(Use Key # 638 on Inquiry Card on page 1)

SELF-ADHESIVE worker identification hard hat emblems have been added to the line of industrial safety products manufactured by the W. H. Brady Co. The emblems provide trade identification of workers on the job. The emblems offer a new, low cost safety tool which can be incorporated into plant safety programs. Thirty standard emblems are available from stock. The contrasting designs include trades of electrician, roofer, welder, mason, carpenter, plumber, driver, etc. Additional stock emblems identify workman as a winner of safety award, member of a Safety Committee, etc.

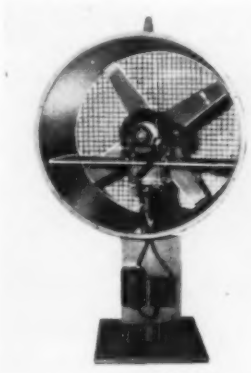
Emblems can be removed quickly when hats are changed, sterilized and re-issued. Emblems are applied without moistening; stick to metal, plastic, painted or unpainted hats until purposely removed. The sturdy vinyl-cloth emblems conform to the contour of all manufactured hard hats on the market. Fadeproof colors are protected with a clear silicone plastic overcoating to resist abrasion, grease, dirt. Portable dispenser cards provide a fast method of applying distortion-free emblems on the job site in seconds. Depending on size and style of stock emblems, three or four identical emblems, in two colors, come mounted on each card. Sizes of stock emblems are 2" and 3" dia. circles. Special emblems with your own wording, design, company colors, trademark, logo can be made to customer requirements.



"MAN-COOLING" FAN

(Use Key # 639 on Inquiry Card on page 1)

A HEAVY DUTY industrial "man-cooler" oscillating fan is announced by Robinson Ventilating Co. The new fan has wide application in industrial plants and warehouses, along production lines and in areas where excessive heat conditions tend to reduce employee efficiency. The fan features a gear motor drive with positive oscillating movement, providing the efficiency of two stationary fans, resulting in savings in space and power. Of rugged steel construction, it is electrically welded throughout. Totally enclosed in heavy duty wire mesh for greatest safety, the new fan is available in blade sizes from 30" to 42" and in 1½ HP to 7½ HP.



U. L. APPROVED HEAVY DUTY CLEANER

(Use Key # 640 on Inquiry Card on page 1)

CLAIMED TO BE the fastest acting, heavy duty cleaner available, All Kleen H-D, produced by Hadco Corporation, is now approved effective and non-slip safe by Underwriters Laboratories, Inc. The announcement by the manufacturer also stated that a new ingredient has been added that does a better job of attacking the oily base of soil. Called "di-Purgent," it is reported to greatly speed up the emulsification process that puts soil in suspension. This represents a completely new conception of soil removal, according to the manufacturer.

Termed an all-purpose cleaner, "All Kleen H-D," which does not contain soap, acid, abrasive or caustic material, is in concentrated form, and is adaptable to any degree of soil on any surface. It is recommended for floors of all types, production machinery, walls, woodwork, office furniture and fixtures. It can be used on any surface normally cleaned with soap and water and can be used by any manual or mechanical cleaning method. It can also be used for degreasing of metal and plastic parts, according to the manufacturer. The cleaner is said to assure firm footing while being used and avoids costly, slippery floor accidents.

NEW NON-SKID FLOOR FINISH

(Use Key # 641 on Inquiry Card on page 1)

THE NEW Lewbill non-skid safety floor finish is a colored, paint-like material to which an abrasive grit has been added to provide a durable slip resisting surface under especially difficult situations, both interior and exterior. It is designed for use on wet or dry surface conditions and is unaffected by oil. It is applied easily by brush or trowel to metal, wood and concrete floors. Finish dries in about six hours and may be cleaned with ordinary detergents. The high wear-resisting quality is such that slip-proofing is maintained even after extended use. This coating is suitable for stairways, ramps, boat decks, and walkways, especially around industrial machinery, and meets Federal Specification, Mil-C-5044. The finish is available in three colors, light gray, dark gray and tile red. (Manufactured by the Lewbill Industries, Inc.)

GERMICIDAL BOWL CLEANER

(Use Key # 642 on Inquiry Card on page 1)

"BOL-TABS," the toilet bowl cleaner in dissolving tablet form, has added another benefit. The company now reports powerful 30 seconds kill-time against "Staph" (staphylococcus aureus). This product is said to kill germs 20 times faster than phenol and only one-third the amount is needed. Introduced initially as a safer, more convenient and economical method of maintaining toilet fixtures, the product is said to loosen rust and lime stains, while cleaning and deodorizing. "Bol-Tabs" will not harm porcelain enamel and will eliminate spillage, waste, and acid accidents. Manufactured by Horizon Industries.

A NEW CONCEPT IN EMERGENCY OXYGEN

(Use Key # 643 on Inquiry Card on page 1)

THE COMPLETELY equipped, hand portable unit features a pressure reducing regulator to permit oxygen flow simply, easily and safely. A twist of the wrist and it's "ON" . . . reverse and it's "OFF." The "Oxy-Quik" unit requires no tools, wrenches or washers to operate. Tank is replaced in 30 seconds and refills are readily available. The unit is light-weight —only 2½ lbs.—contains oxygen tanks, pressure reducing regulator, mask and hose in a plastic carrying case which is designed to hang on walls, snap or clasp on stretchers, wheel chairs, etc. Units can be carried to disaster areas and first aid stations. It is designed to be transported to hard-to-get-to areas to render aid, to snap to stretcher while transporting patient. Manufactured by Oxygen Equipment & Service Co.

NEW WEAVE WIRE ROPE

(Use Key # 644 on Inquiry Card on page 1)

HERRINGBONE WIRE rope, a new construction which combines the flexibility and abrasion-resistant characteristics of Lang lay rope with the structural stability of regular lay, has been developed by John A. Roebling's Sons Corporation. The wires in regular lay rope are laid in a direction opposite to that of the strands in the finished rope, while the wires in Lang lay rope follow the same direction as the finished strands. Herringbone rope is fabricated of two pairs of Lang lay strands separated by two strands of regular lay. Thus the tough and relatively large outer wires will withstand the friction resulting from continued contact with sheaves, drums and other external objects, while the smaller and highly flexible inner strands are said to enable Herringbone to sustain the most severe bending stresses. Herringbone is made of Type 1105 wire, developed by the Roebling firm. The new wire ropes are of the 6 x 37 classification, are preformed, and, are claimed 15 per cent stronger than improved plow steel ropes.

URINAL BLOCKS WITH ODOR AND GERM DESTROYING CHEMICAL

(Use Key # 645 on Inquiry Card on page 1)

HUNTINGTON Laboratories, Inc. is now producing a urinal block that is new in concept and effect. The new product, "Odor-Bar Blockettes," deodorizes and sanitizes by an immediate, almost total, chemical destruction of bacteria. Technicians stressed that the new blocks do not contain any perfume or other ingredients ordinarily used to desensitize the nose. When moisture hits the blockette, an anti-bacterial chemical vapor is released. This chemical neutralizes smelly, organic matter and destroys the odor at its source.

An independent research firm tested the new urinal blockettes for bactericidal effectiveness. The tests closely approached actual use conditions. Before contact with these blocks, the urine contained approximately 4.8 million organisms per milliliter. "Odor-Bar Blockettes" reduced the bacterial count to 0.27 million after contact, a reduction of 94.4%.

DUST SAMPLER

(Use Key # 646 on Inquiry Card on page 1)

THE "DRAGER" dust sampler represents a simple means of collecting dust samples from the air. Dust-laden air is sucked through a membrane filter by means of a bellows. The dust particles contained in the air sampler are distributed uniformly over the surface of the membrane filter; even the most minute particles are evenly separated. It allows the particles to deposit in airborne form, and also it is possible to evaluate the dust samples directly on filter surface. Physical and chemical methods of evaluation can be applied directly.

The bellows Type 31 is operated by one hand. Suction is obtained by the internally fitted springs expanding the bellows after compression. With each stroke the pump sucks in a volume of 100.5cc. through a membrane filter, at a reproducible rate. The dust filter holder is screwed to the suction socket which connects it to the intake side of the bellows. The bellows with suction socket and a set of twelve dust filter units are housed in a leather case for transit. The dust filter units are numbered individually, which simplifies recording and avoids confusion. Available from the Safety Supply Company.

FLOOR WAX DOESN'T DISCOLOR WITH AGE

(Use Key # 647 on Inquiry Card on page 1)

A NEW FLOOR wax with vinyl content, which combines slip-retardance, a clear-film gloss and resistance to water-spotting, has been introduced by Armstrong Cork Co. Called "Vinyl Formula Linogloss Wax," the preparation is said to provide a safer wearing surface for all floors. The new wax is a result of intensive research devoted to the development of a floor treatment that will not darken, discolor or "yellow" with age.

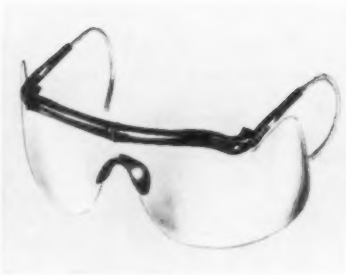
The liquid wax spreads easily to form a glossy, durable coating with high slip-retardance. It is recommended for use on resilient flooring, linoleum, asphalt tile, vinyl plastic tile and sheet goods, cork tile, rubber tile, and vinyl-asbestos tile. It also provides protection for wooden floors and other smooth-surface types. Vinyl formulation helps Armstrong's new floor wax resist soiling, water-spotting and "traffic-marking." The wax can be removed from the floor with common household detergents.

ADJUSTABLE, WHEELED SCAFFOLD

(Use Key # 648 on Inquiry Card on page 1)

A NEW, all-steel portable scaffold is announced by the Building Service Co. The new scaffold, called the "Riteway," is designed to make elevated jobs faster, easier and safer for acoustical tile applicators, painters, lathers, electricians, heating and ventilator mechanics, carpenters, general contractors, maintenance crews and plumbers, etc.

The scaffold is readily assembled from five parts: two ladder end frames with casters, two trusses and a metal-edged plywood platform. Assembly ease makes the scaffold useful for the worker who likes to transport several of the units from job to job in the trunk of his car, etc. Set up on the job, the scaffold may be wheeled anywhere on 4" ball bearing casters. The scaffold does not have to be disassembled: Its size, 29" wide, 6' 4" high, 6' long is said to permit wheeling through any standard door. Two of the casters have a special locking brake (installed diagonally) for maximum stability when scaffold is in use. All four casters are the screw-in type to prevent accidental loss in transporting.



"WRAP-AROUND" PLASTIC GOGGLE

(Use Key # 649 on Inquiry Card on page 1)

A NEW PLASTIC goggle, manufactured by the Pulmosan Safety Equipment Corp., is said to offer "all-around" protection, lightweight and comfort. An extra large one-piece acetate lens, which can be replaced easily, is designed with "wrap-around" side shields which may be tucked inside the temple if desired. The brown acetate frame with an adjustable metal core cable may be worn over prescription spectacles. Goggle is individually packaged in an attractive plastic bag.

DUSTING AND WAXING IN ONE OPERATION

(Use Key # 650 on Inquiry Card on page 1)

A FURNITURE WAX for maintenance use that can be applied in the process of dusting, is now being marketed by S. C. Johnson & Son, Inc. It is called "Shine-Up." The product can be sprayed directly on furniture or on a dust cloth, permitting the dusting and waxing to be done in one operation. It gives a long-lasting shine and can be used on wood, formica, porcelain, brass, stainless steel, chrome, plastic wall tile, marble or leather.

The wax will be sold in gallon containers together with a can equipped with a plunger for spraying. A funnel is provided for transferring the liquid from the large container into the dispenser. The plunger method makes for fast coverage of large areas, such as office desks and tables, wall panels, etc. "Shine-Up" is wiped with a dusting action. No drying time or second wipe-off is required. The wax film that remains is dry, non-oily and non-smearing. The cleaning solvents in the product remove fingerprints and soil.

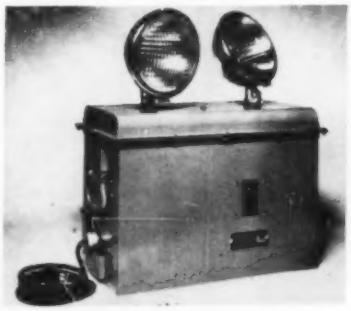
COMMERCIAL WASTE DISPOSER

(Use Key # 651 on Inquiry Card on page 1)

DEVELOPMENT of simplified, commercial garbage disposers and accessory components has been announced by the Waste King Corp. Composed of six basic model disposers, a silver guard and scrapping system, bowls, bowl covers, swirl sprays, overhead spray rinses, and a reduced number of switches, valves, and other fittings, the new line may be assembled in 108 combinations, to meet the requirements of food service operations regardless of type or size.

New features built into the line include quiet operation, less restrictive feeding, improved silver guard protection, longer life, easier installation and maintenance, and elimination of external wiring. When equipped with the appropriate spray rinse and sink assembly and other necessary accessories, each of the disposers may be adapted for either dishtable or all-purpose use. A fiberglass sponge absorbs much of the sound of food waste being pulverized. A rubber garter holds the shells of the disposers rigid so they cannot "ring" and magnify noise. Rubber cushions isolate the grind chamber. The deep bowl shape of these newly-designed sinks is said to assure better fluid motion, permit introduction of larger objects; speed feeding; and provide a settling chamber for foreign objects, such as silverware, before they can be washed into the disposer.

The new sinks are available with a flat cover featuring a large off-center aperture for faster feeding of food waste.



AUTOMATIC EMERGENCY LIGHT

(Use Key # 652 on Inquiry Card on page 1)

THIS UNIT is completely waterproofed and designed for outdoor use and such indoor applications as in areas containing corrosive gases, chemicals, high moisture content, dust, etc. which would foul the mechanism of ordinary units causing them to become inoperative. It operates from the regular 115 Volt AC circuit and provides emergency lighting instantly and automatically whenever the regular source of power fails. All electrical components are hermetically sealed and the case rubber gasketed throughout. The two rate charger (trickle and high) is completely automatic and requires no manually operated switches or timers for correct battery maintenance. Battery is 6 volt 105 A.H. capacity, glass jar with visible hydrometer balls; nickel cadmium or lead calcium batteries are also available. The unit has sufficient capacity to mount up to five sealed beam heads which can be placed remotely from the unit and connected to a wiring block within the unit. Available from the Electric Cord Co.

NEW WIRING TROUGHS

(Use Key # 653 on Inquiry Card on page 1)

THE WADSWORTH Electric Mfg. Co., Inc. has added 2½" x 2½" wiring troughs to its line of troughs and switches. The new units are available in one to five foot lengths with such fittings as end caps, 90 degree internal elbows, Tee connectors and "U" connectors. Each foot of the new trough has this knockout arrangement, four ½" and ¾" concentric knockouts, 3" on center, on the opposite sides of each other. Covers have keyhole slots to eliminate removing screws to take-off the cover. Complete units are furnished in durable baked blue-gray enamel.

SKIN CLEANSER IN AEROSOL CAN

(Use Key # 654 on Inquiry Card on page 1)

WATERLESS PASTE cleansers are now available in a new aerosol can through the manufacturing and research facilities of the Dameron Enterprises, Inc. "Vi-Lan," now packaged in an aerosol dispenser, is a suitable cleanser for factory use, hospitals, clinical laboratories, first aid departments, etc. It is claimed to remove safely such foreign soils as paint, tar, creosote, asphalt, grease, etc. from cuts, sores, burns and suture wounds. Also can be used to remove adhesive left on skin from tape. Paste rinses off easily in water. The product can be used on any part of the body. Conveniently packed—12 Aerosol cans to a case.

NEW SAFETY CLAMP

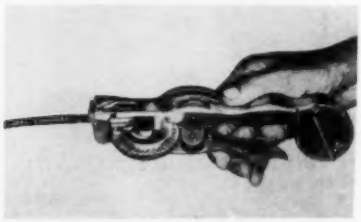
(Use Key # 655 on Inquiry Card on page 1)

THE MEYER MACHINE Co., Inc. has announced a new model of its "Tulito Safety Clamp." The clamp features a patented "belt to guide" device that is said to give workmen complete freedom while ascending, working and descending telegraph and telephone poles to repair power lines, etc. Suitable for linemen, maintenance workers, construction personnel, etc. The unit has been fully approved by industrial commissioners and safety engineers, claim company officials.

"PARA-VINL" SAFETY SHOE SOLING

(Use Key # 656 on Inquiry Card on page 1)

"PARA-VINL," a stitchable, safety-shoe, soling material proved resistant to heat, oil, acids and caustics, has been announced by Gro-Cord Rubber Co. This new material for safety shoes was tested in automotive and chemical plants, and was put into prolonged use by policemen and firemen. "Para-Vinl" outwore the uppers on the highest-quality work shoes available, claim the company's engineers. These tests, conducted under unusually abusive underfoot conditions, further proved that it has positive slip resistance and excellent low-temperature flex.



HAND SIZE LABELER SOLVES MARKING PROBLEMS

(Use Key # 657 on Inquiry Card on page 1)

A PORTABLE hand embosser, named Roovers "Midgie Labeler," makes individual label strips in desired lengths. This device embosses raised characters and numbers on strips of corrosion-resistant monel, stainless steel, aluminum, copper, lead and vinyl plastic.

Strips are one-half inch wide, handy for business and commercial purposes as a metal tag for wires, cables, chemicals being processed, tools, stock shelves, parts bins, letter files, motors, etc. Easy to use, the labeler is only 10½ inches long to fit the hand. It is chrome-plated with a precision molded body. A distinctive feature, the automatic cut-off blade, allows clear passage for the continuous roll. It can be punched, too, with the hole-punching device incorporated in the tool.

The compact tool is operated by simply dialing a letter or number and squeezing the handle. The plastic or metal strip housed in the handle is self-feeding and can be cut to any length. It has a pressure-sensitive adhesive backing, sticks firmly to any smooth surface, and can be applied to virtually any type of material-metals, glass, films, leather, plastics, wood or paper. Colored labels of vinyl plastic with adhesive backing are available in a variety of colors—red, blue, green, brown and black, where plastic strips are desired in place of metal. Produced by the Roovers-Lotsch Corp.

NEW MIST COLLECTOR

(Use Key # 658 on Inquiry Card on page 1)

A COMPACT, highly-efficient mist collector has been introduced as part of Torit Mfg. Company's new line of mist and fog collecting equipment. Designated the "MC-412," the collector is especially designed to control mists from wet machining operations that can endanger health or create fire and safety hazards. Measuring 22 inches square, it can be floor-mounted on legs or mounted on walls or ceiling to conserve space. It measures 47¼ inches high. The new unit filters mist and fog by passing the air through spun glass filters which can be replaced easily and economically. In normal operation, the filters will operate for many months. Condensed coolant mist is collected in the bottom of the mist collector where it can be drained for re-use. By means of a tube, the unit can be connected to a machine coolant system for continuous flow.

Performance ratings for the "MC-412" under standard test conditions are: 632 cfm; velocity, 4650; external static pressure, 2.15 inches w.g. with a 5-inch inlet. It is equipped with a ½ horsepower motor, available in either 110 volt/60 cycle or 220 440 volt/60 cycle. Fan speed is 3450 rpm and filter area totals 12 square feet.

SAFETY JACKET FEATURES UNIQUE "ARMOR"

(Use Key # 659 on Inquiry Card on page 1)

WORKLON, INC. has introduced a new jacket to the safety field which features a unique "armor." "Armor" incorporates a special mating of foam rubber covered with nylon to furnish protection against flying glass. Jacket is suitable for employees in chemical laboratories, bottling plants, pharmaceutical houses, wherever the possibility of exploding or breaking glass constitutes a hazard to workers. The new protective garment is said to be easy to don and remove, comfortable, lightweight and will not restrict body movement, etc.

NEOPRENE SEALING COMPOUND

(Use Key # 660 on Inquiry Card on page 1)

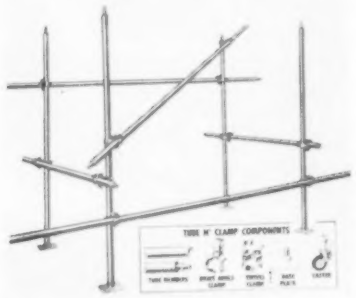
THE EQUIPTMENT Div. of the Crichton Co. has introduced a new line of Neoprene products for industrial, commercial, construction and marine use. Distributed under the trade name "Crico" these products include a liquid Neoprene sealer, a brush-on synthetic rubber weather proofing material which is said to adhere to all wood, metal, cement and rubber surfaces and a new Neoprene caulking compound of caulking gun consistency.

This new caulking can be used to seal aluminum, steel, wood, concrete, etc. It dries "tough" quickly after being applied and cures into an elastic, Neoprene, synthetic rubber in less than a week. This new caulking is a one-part compound which will retain its flexibility and properties without cracking. Its elastic properties make it particularly well-suited for expansion joints. Weather resistant and unaffected by oxygen, ozone, water, sun or salt spray.

NEW SCAFFOLD SYSTEM

(Use Key # 661 on Inquiry Card on page 1)

"TUBE-N-CLAMP" is the name given a new system of scaffolding that is made up of tubular members and clamps that are portable and adaptable to an extreme range of shapes. The interchangeable galvanized tubular members are 1.9" O.D. and equipped with male and female plated connectors which are an integral part of each unit. Tubular members are available in 4, 6, 8, 10, 13 and 20 feet, and in special lengths. Two types of clamps, swivel and fixed right angle, are also offered for use



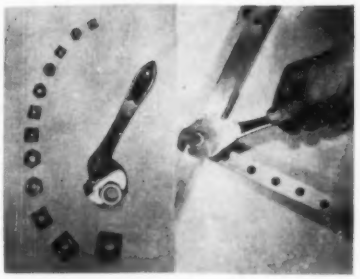
in joining horizontal or diagonal members to vertical members. The clamps, as well as tube connector fittings are of sturdy, malleable iron construction. A base plate is furnished with a male connector for attachment at the base of vertical columns. For making mobile work platforms or scaffold units, an 8", locking type caster is furnished. Manufactured by Bil-Jax, Inc.

PORTABLE STEAM CLEANER

(Use Key # 662 on Inquiry Card on page 1)

A LOW-PRICED portable steam cleaner, the "Model 200" with automatic features and capacity has been added to the Vapor Heating Corporation's, "Upgrader," steam cleaner line. The unit heats, cleans, sterilizes, de-ices. An ignition switch starts automatic operation which reaches 100

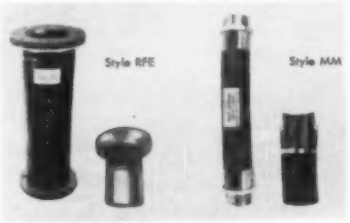
psi, full operating pressure, in three minutes. Output is 200 gallons of water or mixed solution per hour. Built-in, self-mixing solution tank has 14 gallon capacity for about 4-hours continuous running. The cleaner has a pressure atomized, burner (forced draft) system. Continuous spark ignition and spaced, baffled heating coils provide efficient combustion and heat transfer to over 380,000 btu per hour. Features include a safety switch gun handle which shuts steam off when trigger is released.



AUTOMATIC WRENCH

(Use Key # 663 on Inquiry Card on page 1)

THE CUSTANITE Corporation announces the availability of the new "Flikit," automatic wrench. Just a "flick of the wrist" is all that is required to tighten or loosen the wrench. No finger tip or manual adjustment is necessary. You place the wrench on the nut and turn the handle to tighten or loosen. The jaws close automatically on whatever size nut you are tightening. The wrenches come in three sizes and each size handles all types of nuts; square or hex, and eliminates the necessity for a complete set of ordinary wrenches. The wrenches are made of polished finish; boxed and wrapped in greased sealed paper.



NOISE-ABSORBING PIPE SECTIONS

(Use Key # 664 on Inquiry Card on page 1)

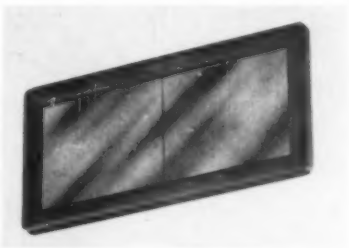
VIBRATION ABSORBING and noise deadening rubber pipe sections have been developed by Vibration Mountings, Inc. Completely flexible, durably reinforced and light in weight, these rubber pipe sections are called "Quiet-Flex." Used as connections for pumps, compressors, engines, processing and heating or ventilating equipment, the flexible rubber pipe sections dampen noise, vibration and pulsations carried by metal pipe. They also compensate for misalignment and reduce strain on flanges by allowing for contraction and expansion. They are suitable for handling the acids, salts, alkalies, suspended solids and abrasive materials that destroy metal pipe.

The rubber pipe has an inner tube of gum rubber or compounded, synthetic stock. This is covered by a flexible shell of woven duck and spiraled steel wire embedded in rubber with a tough, outer wrap to withstand working pressures up to 250 psi and operating temperatures up to 250° F. Both RFE and MM fittings are standard in sizes from ¾ to 12 inches and in lengths from 12 to 60 inches. Other lengths can be ordered. In the RFE style, molded rubber and duck flanges keep the entire length flexible. Steel back up rings distribute bolt pressure. The rubber flanges eliminate gaskets. In the MM style, brass fitted couplings with male pipe threads are furnished to assure a leak-proof connection with uniform full-flow area.

WELDING MAGNIFIER LENS

(Use Key # 665 on Inquiry Card on page 1)

A WELDING magnifier called "Supersite" is now being introduced to the eye protection field by Glendale Optical Company, Inc. "Supersite" welding magnifiers fit all standard welding helmets and are designed to make welding easier, faster and safer through enlarging and improving visibility of the work for normal, prescrip-



tion glass or bi-focal wearers. Fitted with "Glensite" lenses, optically ground and polished, the magnifier offers a wide range of focal strengths for matched or individual eye lenses to provide balanced sight for every welder. Eight focal strengths range from .75 weakest power to 2.50 greatest power. The sturdy frame is a gold butyrate channel with the diopter clearly marked.

DUSTLESS SANDING TOOL

(Use Key # 666 on Inquiry Card on page 1)

A 3" BELT SANDER is announced by the Black & Decker Mfg. Company. Built for continuous, heavy-duty use, the unit is powered and features dustless sanding. The "dustless belt sander" attaches to any standard industrial vacuum cleaner to eliminate over 90% of all dust and fine metal powder. This dustless feature provides longer belt life, with cleaner working conditions. It permits sanding in the same area where painting is being done.

A timing-belt-drive provides smooth, quieter operation and requires no lubrication, eliminating danger of dripping grease on the work surface. Other features include a flush side that permits accurate sanding to any vertical surface; extended front pulley for work on contours and small radii; a convenient tracking knob and large front knob for optimum control.

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- Safety is made appealing . . vivid . . engaging . . colorful!
- Each worker clearly sees how safety benefits him . . . how doing his part helps others!
- You get enthusiastic safety cooperation instead of tolerance . . . from every employee . . . every month!

. . . talks the worker's language!

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packed with pictures, alive with animated cartoons, touched with humour that gives snap to your message, it makes safety interesting and down to earth. Twelve times a year it covers accident hazards. Across the nation leading industrial firms state it's the only safety paper their employees will read . . . and take home to their families.

It gives the employer the advantages of personal contact . . . saves time and expense. One "lost time" accident prevented . . . more than pays for the yearly cost! Try it . . . it works!

YOUR SIGNATURE HERE!

Make *Your Safety News* your own publication . . . your good will ambassador . . . working for you toward better industrial relations. If you wish, your facsimile signature can be printed here to identify you with the message that gets next to your men and boosts morale.

NOTE: *Your Safety News* is designed to promote better employer-employee relations. Every item is carefully weighed and tailored to this viewpoint!

INSIDE PAGES
(Pages 2 and 3)

THOUGHTLESSNESS IS A THIEF
He'll steal his way into what you're doing, distract your attention and walk off with a finger, arm, eye or foot. Thoughtlessness takes many forms: it may be daydreaming, or worry about some personal problem, or just plain inattention. Anything that distracts you, especially around machinery, is a thief of your personal safety.
PLAYFULNESS IS A PIRATE
He is a deceptive rascal. His hi-jinks may put him in the spotlight, but his practical jokes and showing-off often result in serious bodily injury and even death. And note this: he, himself, has lost a leg! As so often happens, horseplay can boomerang and the practical joker gets hurt too!
AN INTIMATE LOOK AT FOUR VILLAINS
SAFETY LAZINESS IS A SIMON LEGREE
If you are lazy about safety rules, then accidents will have the whip hand. We are safety-lazy when we don't bother to use mechanical guards, to take time to get the right tools for the job, to wear protective equipment such as goggles, hard hats, safety shoes, respirators, gloves, etc. Yes, Simon Legree has a whole pack of accident hounds to trail you.
HAZARDOUS METHODS ARE A HOLD-UP MAN
This villain, unsafe work habits, likes to lie in ambush for the unwary. But how do we fall into bad working habits? It may be by trying to cut corners, by wanting to keep to the old way of doing things, or by over-confidence. It's hard for anyone to believe that an accident can happen to him. It's easier to make excuses to ourselves for ignoring safety rules, but alibis only lead us up a blind alley with an accident waiting in ambush.
What You Should Know About Carbon Monoxide
This is a picture of carbon monoxide gas!
That's right, you can't see it. It's odorless, non-irritating, tasteless, practically odorless, but also deadly.
Here are the symptoms of carbon monoxide poisoning. First, a tight feeling across the forehead, followed by headache, throbbing temples, weariness, weakness, dizziness, nausea, loss of muscular control, increased pulse and breathing; BUT if the concentration of the poison gas is high, there may be loss of consciousness without these warning signals.
Just a few breaths of air containing 1% carbon monoxide can be fatal . . . so can one part of carbon monoxide in a thousand parts of air when breathed for 90 minutes.
It is possible for carbon monoxide to leak inside of a car if there is a loose exhaust pipe or manifold connection, blown-out exhaust gasket, cracked exhaust manifold, or leaky muffler. Play it safe:
1. Be sure your muffler and exhaust are in good condition (they can leak long before they become noisy).
2. Always keep a car window open, even a little, for fresh air.
Two Excellent Reasons For Wearing Safety Shoes

EMPHASIZES SELF INTEREST

Your employee's self interest in his own safety is always emphasized. Constant safety consciousness is promoted by covering household hazards, transit to and from the job and on the job caution against accidents.

CLEVERLY ILLUSTRATES THE POINT

Artwork is carefully chosen to lodge home each point persuasively. The cartoon style makes YOUR SAFETY NEWS as familiar and welcome as the picture packed Sunday supplement.

WINS READERS WITH A FOLKSY APPROACH

Keeping the contents folksy, adding the light note of humor, gets your message across with a nudge instead of a bludgeon. Your monthly chat gets enthusiasm instead of indifference.

RIVETS ATTENTION WITH VIVID COLOR

Generous use of color sparks the message, and adds impact to the contents of YOUR SAFETY NEWS. Each issue is as alive as any news-stand favorite.

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Item (2) INDIVIDUAL NAME OR SIGNATURE: (If Desired). On a sheet of white paper, please show, in black ink, the individual name or signature, if desired, which is to appear each month on the first page of YOUR SAFETY NEWS.

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(For details, use Key # X-26 on card on page 1)

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THANTIS Lozenges relieve pain promptly—reduce infection—act prophylactically.

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